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BALTIMORE, JANUARY 5, 1911.

R. K. Papin & Co., railroad and con-
tractors' equipment, St. Louis, Mo.,
write to the MANUFACTURERS RECORD:

We inclose herewith our check for an-
other year's subscription to the MANU-
FACTURERS RECORD, and we truthfully believe
it is the best \$4 which we invest during the
year.

ORDERS FOR RAILROAD EQUIPMENT.

Statistics of railroad equipment dur-
ing the past year are especially inter-
esting, for, while there was a falling
off in orders during the last six months,
the character of the equipment orders
shows progress toward the best which
can be manufactured, according to data
presented by the *Railway Age Gazette*.

The figures show that 180,945 freight
cars were built in the United States and
Canada, of which 170,630 were con-
structed in the United States. Of this
latter 147,244 cars were composed either
entirely of steel or had steel under-
frames, which reveals the progress made
toward superior construction. There
were 4412 passenger cars built, of which
4288 were built in the United States,
and of this latter 1607 were of steel or
had steel underframes. The figures on
locomotives show that 4755 were built
in the United States and Canada, of
which 4529 were manufactured in this
country. The latter includes 286 com-
pound engines, practically all of the
Mallet articulated type.

The figures on equipment ordered dur-
ing the year show that 141,204 freight
cars, 3881 passenger cars and 3787 loco-
motives were contracted for. Of the
passenger cars 1855 were of all-steel
construction, while 723 had steel under-

frames. Steady progress is being made
toward the use of steel passenger equip-
ment by prominent roads, with the prob-
ability that within a comparatively few
years steel passenger cars will be com-
monly used on the fast trains of practi-
cally all important lines.

The heavy decline in orders for
freight cars is regrettable from the point
of view of the railroads especially, be-
cause the near future will doubtless
cause larger demands for equipment at
rush seasons, and judging from the
present outlook, the railroads will not
be able to meet the requirements of
traffic at the big crop-moving periods.

It is interesting to review the orders
given and the equipment built during
the past ten years, which may be done
from the data referred to. The figures
presented include statistics from Can-
ada from and including the year 1905,
but not before. They are as follows:

Locomotives.		
	Ordered.	Built.
1901.....	4,340	3,384
1902.....	4,605	4,070
1903.....	3,283	5,152
1904.....	2,538	3,441
1905.....	6,265	5,491
1906.....	5,642	6,952
1907.....	3,482	7,362
1908.....	1,182	2,342
1909.....	3,250	2,887
1910.....	3,787	4,755
	38,534	45,836
Passenger Cars.		
	Ordered.	Built.
1901.....	2,879	2,055
1902.....	3,459	1,948
1903.....	2,310	2,007
1904.....	2,213	2,144
1905.....	3,289	2,551
1906.....	3,402	3,167
1907.....	1,791	5,457
1908.....	1,319	1,716
1909.....	4,514	2,849
1910.....	3,881	4,412
	29,057	28,396
Freight Cars.		
	Ordered.	Built.
1901.....	135,479	136,850
1902.....	185,248	162,589
1903.....	108,936	153,195
1904.....	126,561	60,806
1905.....	241,315	165,155
1906.....	310,315	240,593
1907.....	151,711	284,188
1908.....	62,669	76,555
1909.....	189,360	93,570
1910.....	141,204	180,945
	1,830,758	1,554,456

There are some peculiar facts dis-
closed by the foregoing. One is that
the number of locomotives built has
exceeded the number of orders, which,
perhaps, was owing to supplemental
orders being given of which no public
record was made. Another is that the
number of freight cars ordered exceed
by 276,302 the number built, which dis-
crepancy may be explained upon the
theory that when the late panic occurred
some orders were canceled. It is shown
that 1905 and 1906 were big years
(wonderfully large, in fact) for the or-
dering of locomotives and freight cars,
but the orders for passenger cars did
not reach their highest mark until 1909,
although the greatest number built was
in 1907. The highest number of loco-
motives built and the highest number
of freight cars constructed were also re-
ported in 1907, from which point there
was an abrupt drop in 1908. It is to be
hoped that 1911 will show a large in-
crease over 1910, especially in the vol-
ume of freight cars ordered, as much
new equipment is necessary.

SOUTHERN FACTORS MAKING SOUTHERN FACTS.

THE SOUTH YIELDS ANNUALLY THE SOUTH'S RESOURCES INCLUDE

\$2,690,000,000 from its factories.	27,600,000 population.
\$2,600,000,000 from its farms.	806,947 square miles of land area.
\$440,000,000 from its forests.	232,400,000 acres of wooded area.
\$280,000,000 from its mines.	16,000 miles of navigable streams.
\$1,000,000,000 of cotton with seed.	2500 miles of coast line.
\$730,000,000 of grain.	71,907 miles of railroad.
\$200,000,000 of live-stock.	\$2,120,000,000 in manufacturing.
\$175,000,000 of dairy products.	265 separate kinds of industries.
\$170,000,000 of poultry products.	11,100,000 active spindles.
\$150,000,000 of fruit and vegetables.	235,000 active looms.
\$69,000,000 of tobacco.	850 cotton mills.
\$50,000,000 of sugar products.	840 cottonseed-oil mills.
\$628,000,000 of exports.	125 blast furnaces.
24,000,000,000 feet of lumber.	25,000 lumber mills.
1,250,000,000 pounds of cotton goods.	50 leading minerals.
1,104,000,000 bushels of cereals.	490,000,000,000 tons of coal.
100,000,000 tons of coal.	10,000,000,000 tons of iron ore.
25,000,000 barrels of petroleum.	9,000,000 horse-power in streams.
9,000,000 tons of coke.	1,000,000 hydro-electric power.
6,400,000 tons of iron ore.	350,000,000 acres farm land.
3,200,000 tons of pig-iron.	38,700,000 head of live-stock.
2,395,000 tons of phosphate rock.	\$1,460,000,000 of bank deposits.
350,000 tons of sulphur.	\$21,250,000,000 of property.

As the South enters the year 1911 it presents these facts to the world—facts
largely the record of thirty years' development. What is yet to come is in the
exhibit of Southern factors upon which achievement is to depend. The capabili-
ties of the South in this respect are clearly shown in the following summary of
advance made between 1880 and 1910:

Population, from 16,369,900 to 27,529,800, or by 11,159,900, equal to 68.1 per
cent.

Capital invested in manufacturing, from \$257,000,000 to \$2,120,000,000, or by
\$1,863,000,000, equal to 724.9 per cent.

Value of products of manufacturing, from \$457,000,000 to \$2,690,000,000, or by
\$2,233,000,000, equal to 488.6 per cent.

Capital invested in cotton mills, from \$21,000,000 to \$290,000,000, or by \$269,-
000,000, equal to 1280.9 per cent.

Number of active spindles in cotton mills, from 668,000 to 11,100,000, or by
10,432,000, equal to 1561.6 per cent.

Number of active looms in cotton mills, from 14,300 to 235,000, or by 221,300,
equal to 1545.4 per cent.

Pounds of cotton used in mills, from 108,695,000 to 1,091,796,000, or by 983,101,-
000, equal to 902.6 per cent.

Number of cotton-oil mills, from 45 to 840, or by 795, equal to 1766.6 per cent.

Capital invested in cottonseed oil mills, from \$3,800,000 to \$96,200,000, or by
\$92,400,000, equal to 2431.6 per cent.

Pig iron produced, from 397,000 long tons to 3,200,000 long tons, or by 2,803,000
long tons, equal to 706 per cent.

Coke made, from 372,000 short tons to 9,000,000 short tons, or by 8,628,000 short
tons, equal to 2319.3 per cent.

Value of lumber products, from \$39,000,000 to \$440,000,000, or by \$401,000,000,
equal to 1028.2 per cent.

Lumber cut, from 3,410,000,000 feet to 23,574,000,000 feet or by 20,164,000,000
feet, equal to 591.6 per cent.

Value of agricultural products, from \$660,000,000 to \$2,600,000,000, or by \$1,-
940,000,000, equal to 293.9 per cent.

Bales of cotton marketed, from 5,724,000 to 10,000,000, or by 4,276,000 bales,
equal to 74.9 per cent.

Value of cotton crop, not including seed, from \$312,000,000 to \$734,000,000, or
by \$422,000,000, equal to 135.2 per cent.

Corn, wheat and oats raised, from 577,328,000 bushels to 1,076,926,000 bushels,
or by 499,598,000 bushels, equal to 86.5 per cent.

Value of mineral products, from \$13,800,000 to \$280,000,000, or by \$266,200,000,
equal to 1204.3 per cent.

Coal mined, from 6,000,000 short tons to 100,000,000 short tons, or by 94,000,000
short tons, equal to 1566.6 per cent.

Iron ore mined, from \$42,000 long tons to 6,400,000 long tons, or by 5,558,000
long tons, equal to 660 per cent.

Petroleum produced, from 179,000 barrels to 23,978,000 barrels, or by 23,799,000
barrels, equal to 13,295.5 per cent.

Phosphate rock marketed, from 191,000 long tons to 2,375,000 long tons, or by 2,184,000 long tons, equal to 1143.4 per cent.

Aggregate length of railroads, from 20,000 miles to 71,907 miles, or by 51,307 miles, equal to 249 per cent.

Value of exports of merchandise, from Southern ports from \$265,000,000 to \$628,000,000, or by \$363,000,000, equal to 136.9 per cent.

Aggregate resources of National banks, from \$171,500,000 to \$1,371,000,000, or by \$1,201,100,000, equal to 700.8 per cent.

Capital of National banks, from \$46,700,000 to \$179,700,000, or by \$133,000,000, equal to 284.8 per cent.

Individual deposits in National banks, from \$64,700,000 to \$709,700,000, or by \$645,000,000, equal to 996.9 per cent.

Deposits in State, savings and private banks and in loan and trust companies, from \$83,000,000 to \$698,000,000, or by \$615,000,000, equal to 739.7 per cent.

Expenditures for common schools, from \$9,800,000 to \$53,000,000, or by \$43,200,000, equal to 440.9 per cent.

True value of property, from \$7,505,000,000 to \$21,250,000,000, or by \$13,745,000,000, equal to 183.1 per cent.

Some of the figures upon which these calculations are based are for the year 1909, and some are conservative estimates. Their true perspective develops in a comparison with the advance made by the country as a whole in the past thirty years, sketched as follows:

Population from 50,156,000 to 91,972,000, or by 41,816,000, equal to 83.3 per cent.

Capital invested in manufacturing, from \$2,790,000,000 to \$16,150,000,000, or by \$13,360,000,000, equal to 478.8 per cent.

Value of products of manufacturing, from \$5,370,000,000 to \$20,250,000,000, or by \$14,880,000,000, equal to 277 per cent.

Capital invested in cotton mills, from \$208,000,000 to \$725,000,000, or by \$517,000,000, equal to 248.5 per cent.

Number of active spindles in cotton mills, from 10,653,000 to 28,113,000, or by 17,460,000, equal to 163.9 per cent.

Number of active looms in cotton mills, from 226,000 to 682,000, or by 456,000, equal to 201.7 per cent.

Pounds of cotton used in mills, from 750,000,000 to 1,838,000,000, or by 1,088,000,000, equal to 145 per cent.

Pig iron produced, from 3,835,000 long tons to 27,250,000 long tons, or by 23,415,000 long tons, equal to 610.5 per cent.

Coke made, from 3,338,000 short tons to 44,700,000 short tons, or by 41,362,000 short tons, equal to 1229.3 per cent.

Value of lumber products, from \$233,000,000 to \$830,000,000, or by \$597,000,000, equal to 256.2 per cent.

Lumber cut, from 18,087,000,000 feet to 44,585,000,000 feet, or by 26,498,000,000 feet, equal to 146.5 per cent.

Value of agricultural products, from \$2,213,000,000 to \$8,926,000,000, or by \$6,713,000,000, equal to 303.3 per cent.

Bales of cotton marketed, from 5,761,000 to 10,610,000, or by 4,849,000, equal to 84.1 per cent.

Value of cotton crop, not including seed, from \$313,696,000 to \$778,894,000, or by \$465,198,000, equal to 148.3 per cent.

Corn, wheat and oats raised, from 2,633,000,000 bushels to 4,948,000,000 bushels, or by 2,315,000,000 bushels, equal to 87.9 per cent.

Value of mineral products, from \$455,000,000 to \$1,750,000,000, or by \$1,295,000,000, equal to 284.6 per cent.

Coal mined, from 71,500,000 short tons to 480,000,000 short tons, or by 408,500,000 short tons, equal to 571.1 per cent.

Iron ore mined, from 7,975,000 long tons to 62,000,000 long tons, or by 54,025,000 long tons, equal to 677.4 per cent.

Petroleum produced, from 26,000,000 barrels to 182,000,000 barrels, or by 156,000,000 barrels, equal to 600 per cent.

Phosphate rock marketed, from 211,000 long tons to 2,395,000 long tons, or by 2,184,000 long tons, equal to 1035 per cent.

Aggregate length of railroads, from 92,000 miles to 242,000 miles, or by 150,000 miles, equal to 163 per cent.

Value of exports of merchandise, from \$836,000,000 to \$1,745,000,000, or by \$909,000,000, equal to 108.8 per cent.

Aggregate resources of National banks, from \$2,106,000,000 to \$9,956,000,000, or by \$7,850,000,000, equal to 372.7 per cent.

Capital of National banks, from \$466,000,000 to \$1,004,000,000, or by \$538,000,000, equal to 115.4 per cent.

Individual deposits in National banks, from \$874,000,000 to \$5,305,000,000, or by \$4,431,000,000, equal to 506.9 per cent.

Deposits in State, savings and private banks and in loan and trust companies, from \$1,319,000,000 to \$9,768,000,000, or by \$8,449,000,000, equal to 640.5 per cent.

Expenditures for common schools, from \$78,000,000 to \$400,000,000, or by \$322,000,000, equal to 425.6 per cent.

True value of property, from \$43,600,000,000 to \$135,000,000,000, or by \$91,400,000,000, equal to 209.6 per cent.

That the rates of increase on so many lines in the past thirty years have been greater in the South than in the country as a whole is partly explained by the fact that the bases for advance in the South were so much smaller than the bases in the whole country, the capital invested in manufacturing, for instance, in the South, though showing an advance at the rate of 724.9 per cent. in the thirty years as against a rate of 478.8 per cent. for the country, still being \$670,000,000 less than the capital invested in manufacturing in the country in 1880. The advance in the South, however, has been, also, partly due to the inherent strength of the South as possessor of natural resources for industry, and a notable illustration of this fact is that while the cut of lumber in the South in 1880 was less than 19 per cent. of the total cut in the country, the South's cut in 1909 was 5,000,000,000 feet greater than the cut in the country in 1880 and 52 per cent. of the total 1909 cut. So, too, in coal mining and in the

textile industry the South has advanced beyond the position of the whole country 30 years ago.

But it has not kept pace with the country as a whole in population, in the value of its agricultural products and in some mineral activities, while the increase of 249 per cent. in its railroad mileage still finds it more than 20,000 miles behind the mileage of the country in 1880.

Such a situation suggests the lines in which the energies of men of the South and of the rest of the country going to the South may find full and profitable exercise in the coming years.

Thrifty population desirous of becoming part and parcel of the South is needed, come from whatever quarter it may. It is needed to make the most of the agricultural potentialities of the South, to develop to the full its mineral, manufacturing and commercial opportunities. Instead of a population of 34 to the square mile, the South can support in industry a population ten times as dense. Even if the present density were only doubled, it would have but 4,000,000 more population than the whole country had in 1880, and 37,000,000 less than the population of the country today. In the South are unsurpassed opportunities for the investment of mind, muscle and money.

A YEAR'S RECORD OF SOUTHERN INDUSTRIAL DEVELOPMENTS.

During the year 1910 the Construction Department of the MANUFACTURERS RECORD published approximately 50,000 items showing the establishment and progress of new and enlarging industrial, railroad, commercial and general business developments and building operations in the Southern and South-western States. These items have appeared in the *Daily Bulletin*, and, weekly, in the MANUFACTURERS RECORD. A concise statistical statement for each month has been duly presented. The following table gives a complete summary for the year:

Synopsis of Construction Department, MANUFACTURERS RECORD, covering the months of January, February, March, April, May, June, July, August, September, October, November and December, 1910.

Total of items.....	49,705
January.....	3,930
February.....	4,087
March.....	5,136
April.....	4,759
May.....	4,671
June.....	4,983
July.....	3,943
August.....	3,966
September.....	3,488
October.....	3,491
November.....	3,575
December.....	3,676
Construction.....	41,181
Machinery, Proposals and Supplies Wanted.....	6,754
Burned, etc.....	1,770

Divided in detail as follows:

Bridges, Culverts, Viaducts.....	871
Canning and Packing.....	239
Clayworking Plants.....	318
Coal Mines and Coke Ovens.....	621
Concrete and Cement Plants.....	97
Cotton Compresses and Gins.....	398
Cottonseed-oil Mills.....	136
Drainage and Irrigation.....	302
Electric Light and Power.....	1,153
Fertilizer Factories.....	237
Flour, Feed and Meal Mills.....	267
Foundry and Machine Plants.....	461
Gas and Oil Developments.....	505
Ice and Cold-storage Plants.....	510
Iron and Steel Plants.....	100
Land Developments.....	1,176
Lumber Manufacturing.....	1,229
Metalworking Plants.....	1,229
Mining.....	656
Miscellaneous Construction.....	438
Miscellaneous Enterprises.....	2,120
Miscellaneous Factories.....	2,785
Railway Shops, Terminals, Round-houses, Sheds, etc.....	208
Road and Street Work.....	2,694
Sewer Construction.....	922
Telephone Systems.....	484
Textile Mills.....	522
Water-works.....	1,379
Woodworking Plants.....	722
Railways.	
Steam.....	2,856
Street.....	351
Buildings.	
Apartment-houses.....	667
Association and Fraternal.....	475
Bank and Office.....	1,232
Churches.....	1,362
City and County.....	764
Courthouses.....	239
Dwellings.....	4,101
Government and State.....	396
Hotels.....	829
Miscellaneous Structures.....	829
Railway Stations.....	399
Schools.....	2,380
Stores.....	2,212
Theaters.....	305
Warehouses.....	677
Burned, etc.....	1,770
Machinery, Proposals and Supplies Wanted.	
.....	6,754

The Machinery, Proposals and Supplies Wanted list contains 184 foreign wants, representing the countries of Canada, Panama, Porto Rico, Mexico, Cuba, Argentine, Brazil, Chile, Peru, Uruguay, Guatemala, Australia, England, Germany, Holland, France, Spain, Italy, Austria-Hungary, Russia, Turkey, Syria, Greece, India, China and Africa.

With but 295 items lacking to complete a list of 50,000 noted by its Construction Department during the year just closed, the MANUFACTURERS RECORD, in calling attention to this summary,

is inclined to let the figures largely speak for themselves.

All items thus published have contained information pertaining to new, contemplated or progressing developments and improvements along varied industrial and building lines, or have called attention to specific needs of machinery, supplies and materials for such developments and improvements. Undertakings thus noted have included alike vast projects and seemingly smaller interests. Frequently has the same edition given notice of the new or proposed organization of a coal, land or sugar mill company, with its contemplated expenditure of hundreds of thousands or millions of dollars, while mentioning in another column the proposed erection of a five thousand or fifty thousand dollar schoolhouse in which probably may be educated the coal, land or sugar capitalist or manager of the future.

More than 3000 of the above-noted items have been devoted to construction of steam and street railways; nearly 2500 to the building of schoolhouses; 2000 to road and street improvements; more than 1000 each to the installation and development of water-works, of electric-light and power plants and the manufacture of lumber; more than 2000 store items have been published, with above a thousand each relating to the construction of church edifices and of bank and office structures. Government, city and county building; drainage and canal projects; cotton and textile interests; bridge erection; coal developments; iron and steel work—all these and various other phases of industrial and general business activities have been presented. The erection of warehouses and railway stations has been noted. Mention has been made of plans and contracts for many hundreds of dwellings.

In this connection it may be stated that a large number of these industrial developments and building has been noted twice or several times, as new facts have been ascertained and new plans unfolded, this being in accordance with the intention to supply, from inception to completion of projects, full information useful to those whose interests are served by the publication of construction items in the *Daily Bulletin* and the MANUFACTURERS RECORD.

With view to reconstruction needs and plans, hundreds of items on burned buildings and plants have been noted, while the Machinery, Proposals and Supplies Wanted columns have contained nearly 7000 requests for information and prices on machinery, equipment and supplies, about 200 of these wants representing foreign countries.

The man of thought, or the one in whom all thought leads to action, may well be interested in these lines of figures as he reflects upon what they represent to manufacturers, engineers, contractors, investors and all others watching Southern progress as affording almost unlimited opportunities for profitable enlargement of business operations.

CALLING TO THE SOUTH.

About the most dramatic invitation of the South to men of other parts of the country given during the past year was in its notable showing in grain production in comparison with the rest of the country. Its 919,000,000 bushels of corn were nearly one-third of the total crop in the country, and the increase in production of this grain over 1909 was one-half of the increase in the country. While there was a decrease of 68,800,000 bushels in wheat in the rest of the country, the Southern crop gained 27,000,000 bushels over 1909, and there were gains also in oats and rye. These manifestations are the direct result of cumulative work done in the past decade by the agricultural experiment stations in the Southern States, accelerating the natural tendency of many farmers to return, as a consequence of the poverty prices of cotton between 1890 and 1900, to the better-balanced diversification in agriculture that prevailed in so many parts of the South fifty years ago.

Recognition of the corn-growing potentialities of the South was signally given only a few weeks ago in the announcement of plans of Middle Western experts to grow seed corn extensively in Louisiana. That State has come prominently to the front as a bidder for thrifty settlers in a dozen or more undertakings for the reclamation of a million or more acres of so-called wet lands. In these undertakings have become interested capitalists of Illinois, Missouri, Wisconsin and other Middle Western States. Some of these plans involve not only the construction of canals, levees and pumping plants, but the installation of electric service for power and lighting on farms. Another, dealing with 48,000 acres of rich alluvial, well-drained prairie land, calls for the construction of 200 miles of good roads.

The awarding of a contract representing an expenditure of about \$2,500,000 to the Furst-Clark Construction Co. for the drainage of 6,000,000 acres of land in the Florida Everglades, of a \$150,000 contract for the drainage of Dismal Swamp lands, for the construction of ten miles of drainage canals in Bolivar county, Mississippi, and for a drainage ditch twenty-four miles long and one fifteen miles long in Phillips county, Arkansas, together with plans for the drainage of 120,000 acres, including Lake Mattamuskeet, in North Carolina, are tokens of the widespread movements in agriculture, finding expression, also, in the expansion of acreage devoted to apples, peaches and other fruit.

In the manufacturing industry the year marked the completion of plants of the Security Line & Cement Co. in Maryland, the Norfolk Portland Cement Corporation in Virginia and the Atlantic & Gulf Portland Cement Co. in Alabama. To insure a full water supply for its Easley plant the Tennessee Coal, Iron & Railroad Co., owned by the United States Steel Corporation, undertook the construction of a dam 90 feet high and 490 feet wide to create a lake five miles long impounding 2,500,000,000 gallons of water. As a part of its Alabama work the Steel Corporation has been pressing construction upon its \$4,000,000 wire plant, its great by-product coke plant and the enlargement of its mining and its rail output. Not unrelated to this improvement was the primary expenditure of \$100,000 in laying out a new industrial town—Corey—adjoining the wire plant. Considerable progress was made at Texas City, the new Texas port on the Gulf Coast, the additions including a steel and concrete grain elevator of 500,000 bushels capacity costing \$1,000,000, the establishment of a sugar refinery to cost \$1,000,000 and the expenditure of \$250,000 upon new trackage and railroad equipment there. The Davis Coal & Coke Co., with operations in West Virginia, arranged for a large plant at Texas City for the distribution of bunker coal. At Port Bolivar, also on Galveston harbor, facilities are to be provided for the shipment to Eastern furnaces of iron ore to be obtained from a tract of land in northeastern Texas containing from 50,000,000 to 250,000,000 tons of iron ore, to which a railroad is to be built.

In the early summer oil piped from Oklahoma began to be delivered at the rate of 10,000 barrels a day at the new refinery of the Standard Oil Co. at Baton Rouge, La., and shortly thereafter contract was let by the Texas Company for 200 miles of piping to be laid from the Shreveport-Caddo oil field to Port Arthur, Tex. Proving of the presence of natural gas near Fayette, Ala., led to the organization of a \$750,000 company to pipe it to Birmingham as a great addition to the fuel resources of that industrial center.

About \$11,400,000 represent the investment in new cotton mills and in additions to existing ones planned during the year, and quite a large part of that amount is of Northern and Western origin. Two mills of \$1,000,000 capital each were among the new ones planned, while the acquisition by Marshall Field & Co. of Chicago of a group of North Carolina mills and the plans of consolidation of a number of mills in the Piedmont Section representing \$10,000,000 were features of the developments in the textile industry.

Quite early in the year the International Harvester Co. of Chicago, through its subsidiary, the Wisconsin Steel Co., undertook the development of 20,000 acres of coal land in Harlan county, Kentucky, and the construction of 300 coke ovens at an expenditure of \$500,000. That was the beginning for the year in that section of the South of a number of big plans which had a climax in the purchase by the Consolidation Coal Co. in November of 100,000 acres of land in the Elkhorn coaling-coal fields, with plans for developments of the coal and for railroad construction representing from \$15,000,000 to \$20,000,000.

Of the 1880 miles of railroad constructed in the South, perhaps one of the most notable achievements was the building of the Winston-Salem Southbound Railway from Winston-Salem to Wadesboro, N. C., forming a link between the Norfolk & Western and Atlantic Coast lines, and giving another outlet for West Virginia and Virginia coal to the South Atlantic States.

Completion of the Beaufort (N. C.) canal-cut, a part of the great inland waterway planned to extend to Massachusetts Bay, to the Gulf of Mexico; developments of water-powers, one a \$6,000,000 proposition to obtain 45,000 horse-power from New River, Va., and one to obtain 22,000 horse-power in Polk county, Tennessee; the expansion of the acreage devoted to upland rice in Arkansas; extension of irrigation plants in Texas; vast building operations in leading cities, and millions of bonds voted for improved highways are a few of the other evidences of the steady progress of the South on many lines and a persistent reinforcement of the call of the South to investments from other parts of the country.

CANNOT INTERPRET THE SOUTH.

Students of the contributions of Professor Hart of Harvard University in recent years to newspapers and magazines recording his efforts to interpret Southern history and Southern contemporary life will not be surprised at his gathering within the covers of a formal volume, "The Southern South,"* of additional evidence of the sad lack of equipment on the part of Professor Hart for his self-imposed task, in spite of his apparent good intentions. Typical of his inability to interpret correctly matters of obvious plainness is his assertion in his book contained in the phrase, "And though the MANUFACTURERS RECORD lays the responsibility for the Atlanta riots upon the Southern white people who have been urging moderation in the South."

As a matter of fact, the MANUFACTURERS RECORD does nothing of the kind. At the time of the 1906 outrage in Atlanta the MANUFACTURERS RECORD discussed it frankly in an editorial, from which the following are extracts:

Defenders of mob action born of a natural human impulse almost irresistible in certain situations can advance no sane argument to justify the action of the mob at Atlanta this week.

Certain newspapers of Atlanta were immediately responsible for the mob. For days, in a sensationalism that outdid itself they nursed and cherished mob microbes by publishing glaring details of negro crime until the very atmosphere of the city reeked with them and any sort of a mob against any object was likely to be born at any moment. The particular crime, the incentive to this sensationalism, was in logical sequence to the journalism that had disgraced Georgia in a political primary contest culminating in the nomination upon a platform demanding a wrong method of dealing with the political phase of the race problems in the State. The platform itself was an appeal to the mob mind. It was probably less called for by conditions in Georgia than by those in other States. For the relations between the races there had been for many years about as friendly as could be expected, and the menace from the negro in politics was far less than it is in some States where efforts have been made to raise a constitutional barrier against it.

Yet it is not surprising that such a disgraceful campaign was waged in Georgia or that coincidentally the special form of negro lust had expanded. For a recognition of the possibilities of a certain school of journalism as promotive of the quasi-mob mind, to which an appeal was to be made, accounted for the selection of Georgia in 1902 as the rostrum for the real beginning of a renewed "crusade for education" in the South, engineered by an element representative of an earlier crusade of the kind that had done more to set the whites and blacks in antagonism than any hundred other influences.

We then referred to the so-called "Ogden Movement," and said:

Assuming in its coalition with a few Southern whites to be striving in behalf of the whole South, the primary interest of the Ogden Movement was in the negro, and the emphasis of that fact in the unfolding of its campaign checked the advance of both the whites and the blacks of the South toward the point where both would have gained the right and permanent perspective as to their relations, and tended to revive waiting embarrassments. The loose talk by promoters, supporters or proteges of the Ogden Movement about the political, economic and social "wrongs" against the negroes in the past and in the present, about the possibility of negroes excelling whites, about the South "rising out of Saxonism into humanity," about "not even a black skin and a flat nose" justifying caste in this country, about the coming of the time when "marriage may come to be founded not on the color of the skin," and about "a large amount of good work being done by the best people North and South working in harmony for the political and intellectual development of the negroes in the Southern States," and the open practice by leading Ogdenites of social equality

*The Southern South. By Albert Bushnell Hart. Publishers, D. Appleton & Co., New York. Price, \$1.50.

with negroes, pointed straight to a certain end, and the MANUFACTURERS RECORD, in spite of the knowledge that it would be misrepresented and misunderstood, warned the country against that certain end, of which the Atlanta tragedy is but one manifestation.

It may be natural, perhaps, for a writer self-described, as is Prof. Hart, to define "moderation in the South" in a peculiar fashion. But we are quite sure that full knowledge of the meaning of plain English words could not, by any possibility, mistake our comments upon the Atlanta riots as laying the responsibility for them upon "Southern white people who have been urging moderation in the South."

FUTURE OF AEROPLANES.

The recent deplorable results of continued and persistent experiment and practice with the latest and highest form of scientific machine, the aeroplane, will cause many people to question what the final outcome of the art of human flight will be. Every man who operates one of these machines in flight is more or less a hero, and to become expert he must have unusually developed powers of equilibrium, forgetfulness of self and eminent courage to apply his mind entirely to the constant manipulation of the various controls of the machine.

The elements bearing on human flight are such that it will continue to be the foremost test of skill and courage, and there will be an increasing number of men to enter the ranks of the aviators. But it is unbelievable that decided improvements for safety will not be brought out and successively applied with this new year of 1911. The trouble has not been from high flights, but rather from comparatively low flights, due to the fact that the lower air strata are more subject to eddies and invisible hollows and hills of irregular moving air, and the aviator does not have the same "sea room" to maneuver his craft that he has when at a high altitude. The fast-developing gyroscope will probably prove a partial solution for this, on account of its steadying effect and tendency to keep the machine in the plane in which the gyroscope is acting. The matter of supporting the operator by an attached parachute after the aeroplane had become unmanageable would seem to be a subject possible of solution. It is safe to assert that the flying machine will continue to be experimented with and developed until it reaches a stage of practical utility as an instrument for war, or, rather, for preventing war, and as a possible, though always dangerous, means of individual transportation.

BIG RECLAMATION PLANS BY WESTERN MEN.

A. L. Arpin, president of the Joyce Land & Reclamation Co., Grand Rapids, Wis., writing under date of December 23, says that the stockholders of that company are interested in five different companies engaged in the development of the Delta lands of Louisiana. The Joyce Land & Reclamation Co., though the owner of some of these lands, will confine itself more to reclamation work than to operating in lands. The Louisiana Intensified Farming & Drainage Co., Mr. Joyce writes, has two large crews of engineers now at work, and the reclamation of the first unit will be started at once, and the ultimate development will include about 100,000 acres. In addition to these facts, Mr. Joyce adds:

It was largely through your valuable paper that our attention was called to the won-

derful opportunities of the Delta section, and we appreciate the important part you are taking in its development.

IRON ORE AND COKING COAL FOR FUTURE NEEDS.

The view was recently expressed by Prof. James F. Kemp of Columbia University that the world is not likely to run short of iron for at least 1500 years. He found, however, a growing problem in the failing supply of coking coal for smelting purposes, the solution of which may be furnished by the development of water-power in generating electric energy. Looking far into the future, Prof. Kemp commented on the effect to be expected in case of the production of iron increasing largely in cost on account of this reduced supply of coking coal for smelting purposes. He said:

Suppose iron goes up in cost, other conditions of our daily life remaining the same, transportation and all manufacturing based on machinery would become more expensive and less freely carried on. Undoubtedly an appreciable pressure would be developed to turn our people back to the rural districts and to tilling the soil for a livelihood. Shall we perhaps in the long run, in the increased cost of iron and steel, a partial solution of a much-vexed problem? Will the cry "back to the soil" receive support in a way not generally anticipated?

In the end we can perhaps justifiably forecast a future in which agriculture will figure more and more prominently and in which the moral, intellectual and spiritual life of the nation will readjust itself accordingly. Great and concentrated wealth is likely to be less in evidence, materialistic influences less pronounced, and from the vantage ground afforded by the greater comforts and opportunities of modern life, as compared with that of a century or half century past, we may in the distant future look forward to an evolution upon somewhat different lines. Broadly viewed, the national life will probably be increasingly sympathetic with art and with ideals.

Notwithstanding the pessimistic views of Andrew Carnegie expressed in 1902 as to the supply of ore and of others since, Prof. Kemp, referring to the report of Dr. Hayes of the United States Geological Survey to the Conservation Congress, said:

In this way figures as reliable as can be expected are now available. We learn from them that we may consider 3,500,000,000 tons of 50 per cent. ore as assured in the Lake Superior region. At 30,000,000 tons per annum, the present output in Minnesota, we have a reserve for a century. Speaking for the country as a whole, we may say that there is an assured and demonstrated supply at the present rate of output and at present percentage of yield for about a century. There is, furthermore, a less accurately measured but still probable addition which will be sufficient to last for 1500 years.

From the beginning of the controversy in regard to the supply of available ores for the future the MANUFACTURERS RECORD has taken the ground that new discoveries will be made from time to time sufficient to meet the world's needs, but that the enormous increase in consumption would in all probability very greatly enhance the value of present known supplies, and thus enhance the cost of pig-iron. Prof. Kemp, instead of estimating the output of the Lake region at 30,000,000 tons, should have put it at more nearly 50,000,000 tons. Moreover, it is entirely improper to count the present output as any measure of the known supply of 3,500,000,000 tons lasting for over a century. Increasing demand from year to year for iron and steel makes certain a very great increase in the output of Lake Superior ores, and thus a corresponding decrease in the time for their exhaustion. It is, however, to the lower grades of ores not now available that the future must look very largely for a supply of ore sufficient to meet the world's requirements. It is true new sources of sup-

ply will doubtless be made available—some in Canada, some in New Foundland, Mexico, Brazil and elsewhere, as well as the great supplies of Cuban ores. With increasing cost, however, by reason of decreasing supply of high-grade ores, and thus the necessity of using lower grade of ores now so pronounced throughout the iron and steel world, added value should be given to the iron ores of the South. Southern ore supplies have been held at entirely too low a value as compared with Lake Superior and other ores. But this condition is due to many causes, some of which are gradually being removed by the broader industrial development of the South, and by a realization on the part of Southern iron-makers that in talking about cheap production of iron they have created an erroneous impression, and helped to lessen the legitimate profit which should be made on Southern iron. One interesting feature of Prof. Kemp's discussion is the scarcity of coke as compared with ore. On this he said:

We may have greater anxiety about the supplies of coking coal than about the iron ore, but there are always such possibilities of improvements or changes in processes that no one can justly give way to unqualified forebodings. The improvement oftenest in people's minds today is the utilization of water-powers to generate electricity, which, in turn, may supply heat.

With the increasing interest in discussions of the conservation of natural resources there has been an increasing disposition of the authorities to assume supervisory powers over mining and metallurgical operations. The interference by the Government is a matter to be regarded with great caution lest irreparable injury be done to the large problem of maintaining our future supplies by utilizing such new discoveries and developments as may be feasible.

FOUND IT EVERYWHERE.

Frank S. DeRende, manager of the New York office of the A. Wilhelm Company, paint, color and varnish makers, in a letter to the MANUFACTURERS RECORD says:

The writer is thoroughly familiar with the value of your publication. I recently made a trip covering the principal cities east of the Mississippi River and several west of it, and every large office I went into I found the MANUFACTURERS RECORD. I know full well its value to us, and you may enter our subscription, sending the publication to us at New York, and kindly send your bill direct to our main office at Reading, Pa.

"COTTON FACTS."

Improving with increasing years, as all good things do, the December, 1910, edition of the authoritative publication of Col. Alfred B. Shepperson, dealing with the statistics of cotton production, cotton handling and cotton consumption in the world is especially valuable, in view of the notable developments of the past year.* These are reviewed in detail by the author, who suggests that in view of the very moderate stocks of cotton in the markets and mills of the world at the beginning of the present season and of the unusually small stocks of cotton goods held by mills, commission houses, jobbers and retailers, it seems probable that comparatively high prices would prevail during the season should the American crop prove to be only about 12,000,000 bales. Among the other features of the volume are articles on the cultivation and manufacture of cotton in China, the Mexican cotton boll-weevil, cotton culture in India, cotton manufacturing in Japan and the consumption of Egyptian and Peruvian cotton in the United States. These are in addition to 100 pages of accurate statistics which

*Cotton Facts: A Handbook of Useful and Reliable Information about Cotton. By Alfred B. Shepperson, Cotton Exchange Building, New York. Price \$1.

have for more than 30 years made this volume so acceptable as a source of reliable information to thousands of cotton-growers, cotton manufacturers, cotton brokers and others.

THE COTTON MOVEMENT.

In his report for December 30, Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 121 days of the present season was 8,193,033 bales, an increase over the same period last year of 1,104,068 bales. The exports were 4,355,237 bales, an increase of 679,675 bales. The takings were, by Northern spinners, 1,205,747 bales, an increase of 58,102 bales; by Southern spinners, 921,522 bales, a decrease of 23,063 bales.

TIPPED BY YORKVILLE.

The people of Yorkville, S. C., are sending out to their acquaintances throughout the country a New Year postcard greeting on which the following appears:

New Year's Greetings From
The Best Town in
The Best County in
The Best State in
The Best Country in
The Wide World.

This is a good illustration of the spirit prevailing in many towns throughout the South, only needing someone of initiative to get up such a card or prepare some other suitable card setting forth the charms and attractions of the place to cause it to be spread broadcast throughout the country.

Professor Porter Thinks the South Makes Mistake in Emphasizing Cheap Iron Production.

Editor Manufacturers Record:

Dr. Grasty comments in your issue of the 22d ult. on my letter on the Talladega county (Alabama) gray ores, and his remarks, though not controversial, seem to call for a reply.

It is well known that there are certain brands of Southern pig-iron made from a burden consisting chiefly of brown ore which command in Northern markets a price 50 to 75 cents greater than the current quotations for ordinary Southern iron. Their advantage comes partly through their lower phosphorus and partly through higher manganese. There is no real reason why these brands should not sell on a parity with Northern irons of similar grade, but so accustomed have our foundries become to "cheap" Southern pig that there is usually a slight differential against even these excellent brands.

In my opinion, it is a tactical mistake for the South to be continually harping on their low cost of production, and thus educating their Northern customers to demand lower prices. Three out of every four foundrymen I meet are under the impression that Southern furnaces have a good profit at present prices, while as a matter of fact the number of furnaces making \$10 iron can be counted on the fingers of one hand.

While the gray ore used by itself would give a pig-iron relatively low in phosphorus, it would also be very low in manganese, and the effect of this upon the price is questionable. Logically, such a pig should be on an equality with Northern irons, many of which have a similar analysis, but actually this is very doubtful. Probably it would work out in this way, that no higher price would ordinarily be obtained, but that the iron would have a wider usefulness, and hence would sell more readily in dull times.

As a matter of fact, however, the gray ores are too valuable to be used by themselves, and their proper function is to facilitate the smelting of the more abun-

dant red ore, which should form from 50 to 75 per cent. of the burden. In these proportions the phosphorus would not be reduced very greatly, but still enough, I think, to give the iron some slight advantage in dull times.

Regarding those differences in ores which are not shown by chemical analysis, I have just recently succeeded in tracing, after several years' work, a serious difficulty encountered by several furnaces to such a physical difference. I refer to the very viscid and sticky slag which gives trouble to some furnaces and which has heretofore been attributed to high alumina, but which I have demonstrated, to my own satisfaction at least, to be due to a peculiar physical association of the gangue constituents in the red ore from certain mines. According to my theory, the gray ore should be especially valuable as a corrective of this difficulty, and this inference is entirely borne out both by my own experience and that of every other furnaceman who has ever used gray ore.

To my mind, it is this characteristic which gives the gray ore its greatest value and which should make it for some furnaces much superior to brown ore.

JOHN J. PORTER

University of Cincinnati.

Texas Agriculture.

[Special Cor. Manufacturers Record.]

Fort Worth, Tex., December 31.

Texas has had a good year in agriculture. There may have been some sections which suffered from either the absence or a surplus of moisture, but taken as a whole, the State has fared reasonably well. One of the penalties of greatness in area lies in the failure of nature to evenly distribute prosperity, but now that the entire State has been blessed with a bountiful supply of rain, let us take an inventory of our 1910 crops.

We have gained 586,973 bales of cotton more than we had this time last year. We have 223,000 head of live-stock more than at this time last year. We have an increased production in corn of 50,030,000 bushels; oats, 12,825,000 bushels; wheat, 13,730,000 bushels, and our fruit and vegetable products show a corresponding increase.

Another noticeable feature in favor of the Texas farmer is that the price of products is far above the average throughout the United States. The average price of corn in the United States was 48.3 cents per bushel; in Texas, 63 cents. The average price of oats 34.3 cents; in Texas 47 cents. The average price of wheat 88.4 cents; in Texas 98 cents per bushel.

Then the increase in yield per acre is very gratifying. Our corn crop jumped from 35 bushels per acre to 20.6 bushels; our oats from 18.7 bushels to 35 bushels per acre; our wheat from 9.1 bushels to 15 bushels per acre. Our cotton shows an increase of 24 pounds per acre, and other products in proportion.

The total increase in the value of farm products of 1910 over 1909 will approximate \$100,000,000. Our cotton production will show an increase in value of \$50,000,000, our corn \$32,000,000, wheat \$12,000,000, and live-stock, fruit, vegetables, etc., will show a corresponding increase.

According to statistics compiled by the Texas Commercial Secretaries' Association, which include fruits, vegetables and all products consumed on the farm, our agricultural products last year had a market value of \$560,000,000, and the increase of \$100,000,000 this year makes our farm products nearly \$750,000,000. By proper cultivation and a reasonable crop the land now under cultivation should bring us a billion-dollar crop in 1911, and we have four-fifths of our area in reserve for settlers.

Rose-Glow of Optimism Upon the Coming Year.

[Written for the Manufacturers Record.]

Among the New Year's messages received by the MANUFACTURERS RECORD by telegraph or mail are a number expressing cheerful views as to developments during the coming 12 months. Some of the messages follow:

E. H. Gary, chairman United States Steel Corporation, New York:

"I do not agree with what seems to be the general sentiment, in this locality at least, that business conditions during 1911 will be bad."

Alba B. Johnson, vice-president Baldwin Locomotive Works, Philadelphia, Pa.:

"The year closed was better than its predecessor, and that was better than 1908. This indicates uniform improvements from panic of 1907. We look forward to a new year of healthful, moderate business under conditions favorable to economical administration and improvement in methods which tend to promote permanent prosperity."

Col. H. G. Hester, secretary New Orleans Cotton Exchange:

"The Cotton Exchange and the cotton trade recognize the great value of the MANUFACTURERS RECORD to Southern interests and Southern prosperity, and in wishing an indefinite continuance of the prosperity and usefulness of that periodical we express not only merited appreciation, but an interested hope."

John Skelton Williams, Richmond, Va.:

"With wonderful prescience and skill you have for the past score of years been effectually urging capital and directing the energies of apt and capable men into paths which have led, and will continue to lead, to the development of a wealth and prosperity for our section likely in the fast approaching years to exceed any which the world has yet seen. May your wonderful prophecies continue to be fulfilled, and I trust that you and yours may share richly in the prosperity of the section for which you have done so much, and that you may be long spared to our country in health and vigor."

William B. Dickson, first vice-president United States Steel Corporation, New York:

"In extending my best wishes for 1911 I wish to thank the management of the MANUFACTURERS RECORD for their co-operation in the effort to better labor conditions, and express my appreciation of the progressive spirit manifested in your publication."

Willis L. King, vice-president Jones & Laughlin Steel Co., Pittsburg:

"We thank you for your good wishes, which we appreciate highly. We believe that the unfortunate political condition, which is the only obstacle in the way of business, is in a fair way of settlement, and anticipate a satisfactory year in tonnage and prices. We hope that the MANUFACTURERS RECORD will enjoy its full share of prosperity."

O. F. Smith, Concrete-Steel Engineering Co., New York:

"While we all have much to be thankful for from the outgoing year, we look for greater prosperity in the near future, and trust that our good wishes to yourself and the MANUFACTURERS RECORD will be accepted as a personal greeting to you for the new year, with the assurance that same also expresses the feeling of all the readers of the MANUFACTURERS RECORD."

J. A. Arnold, president Texas Commercial Secretaries' Association:

"All industrial movements developed by growth owe their inception to the MANUFACTURERS RECORD, which has been the foundation of industrial education and

progress in the South, and before accepting your compliments permit us to express our own appreciation of your efforts and admiration of your methods of building the South. May the MANUFACTURERS RECORD have the most prosperous year in its history!"

William Clerkin, the Taplin-Rice-Clerkin Company, Akron, O.:

"You may be assured that anything that contributes to the prosperity and welfare of the American people we will do our share toward bringing about this end. We can see no reason why business conditions should not remain good, especially so if we can prevent the cheap politicians from running the business interests of the country."

Isaac M. Scott, president La Belle Iron Works, Steubenville, O.:

"While we are of an optimistic strain of mind, we can hardly justify ourselves in hoping that all of the adverse factors surrounding business at the present time will be eliminated during the coming year. As a matter of fact, don't you agree with us that we will be fortunate if we get rid of 50 per cent. of them?"

Rodman Gilder, secretary Crocker-Wheeler Company, Amper, N. J.:

"It may interest you to know that our prospects are indeed favorable, as we have during 1910 surpassed our record of 1909 both in gross business and in net profits."

W. Byron Rufe, secretary Jenkins Bros., New York:

"And as the 'tide of prosperity' is rising, may the light from the MANUFACTURERS RECORD continue to shine as brightly as in the past, a welcome beacon to all the masters and pilots of trade within the sunny Southland."

H. H. Kess, the Jeffrey Manufacturing Co., Columbus, O.:

"We are looking forward to making 1911 a banner year in extending the Jeffrey business. We have recently added an Atlanta office to our list of branches, and we are hoping to bring before your Southern readers the meritorious features of the Jeffrey products."

Massee & Felton Lumber Co., Macon, Ga.:

"The past three years have been very lean years in the lumber business, and, like the rest of our neighbors, we have found it very hard to make any money. We hope for better things for 1911. There are a good many things that point to a higher level of prices in the lumber industries. We are planning to begin the development of our hardwood timber interest in the early year, and we have every reason to believe that the margin of profit in this product will be much better than it has been in pine, although we are looking for better things in pine. We wish for you and your paper continued prosperity, and that your field of usefulness will continue to broaden."

Nordyke & Marmon Company, Inc., Indianapolis, Ind.:

"We are pleased to report having passed through an unusually successful and satisfactory season, with favorable prospects for a continuance of such conditions for some time to come. Our mill machinery business for the year 1910 was the largest in the history of our company, with the exception of the years 1905 and 1907. Our motor-car department is in unusually gratifying shape. All of our 1910 models were sold, delivered and paid for by July 1, 1910, and since that time we have been turning out our 1911 models just as rapidly as our manufacturing facilities will permit. At the present time we have 100 per cent. more orders on our books for

motor cars than we had at a corresponding period last year. We have sold and delivered 100 per cent. more cars of this year's model than at the same period last year. We have orders on hand, with early shipping dates specified, for 100 per cent. more cars than the same period last year. We have 50 per cent. more live dealers under contract, with the added advantage of a very enviable reputation for our car, made in contests and otherwise. We are justified in feeling pretty good. The only serious 'cloud in the horizon' is the attempt of the railroads to make a general advance in freight rates, which they have failed to justify in their hearings before the Interstate Commerce Commission, and which further seems to be entirely unwarranted, in view of the sworn reports of net income shown by the railroads. In addition to the danger of an added perpetual tax placed upon the shippers of this country, the

most serious menace of the increased rate proposition is that it would afford a temptation to some financiers to indulge in further stock jobbing and watering upon an extensive scale. Since November 1, 1907, we have paid a very heavy penalty on account of unnecessary inflation of securities, and we trust that there will be no serious recurrence of this pernicious practice. One does not have to look very far for causes of increased cost of living when steel properties of an admitted value of about \$15,000,000 are put into a corporation on a basis of securities amounting to \$300,000,000 to \$400,000,000. When the wealth of wealthy persons is multiplied many times through stock manipulations the money has got to come from somewhere, and the only place that it comes from is from the pockets of the people, increasing the cost of living and other things."

ST. LOUIS IDEA OF THE OUTLOOK FOR 1911.

By E. C. SIMMONS of the Simmons Hardware Co.

[Written for the Manufacturers Record.]

Simmons Hardware Co.,

St. Louis, December 28, 1910.

Editor Manufacturers Record:

During the past 30 days I have been busy gathering information from our own salesmen, representing our six houses, located in New York, Toledo, St. Louis, Minneapolis, Sioux City and Wichita, as regards the outlook for business for the coming year. I asked them to forecast their trade for the first six months of 1911 in comparison with the business of 1910.

As these replies began to come in, I found them so interesting that I enlisted the active interest of all the jobbers and manufacturers of St. Louis who employ traveling salesmen, and had them send out similar inquiries to their men.

They have all come in, so that we have had reports from about 2000 salesmen, covering every section of the United States from the Atlantic to the Pacific. Each one of these men has made a forecast of his business for the first half of 1911 as compared to the amount of his trade on the same route during the first half of 1910.

Believing that the spreading abroad of these most cheering reports—which are absolutely the most dependable and reliable obtainable in the United States—would be a splendid influence and ray of sunshine upon the commercial interests of this country, I enclose you herewith a summary, and some other matter with it, but which has direct relation to the subject, and which I shall be glad to have you print in your next issue of the MANUFACTURERS RECORD, which please do, and oblige.

Yours truly,

E. C. SIMMONS.

In view of the expressions of opinion about business for the coming year, reported as coming from some of the leading men of this country, whose openly expressed views have much to do with forming public opinion, we thought it wise to ask each one of our salesmen to give us his opinion about the prospects for business on his route for the coming year. He was instructed distinctly to analyze the situation with great care and make his report conservative so far as the facts indicate.

In getting these reports from our six houses, which are located in New York, Toledo, St. Louis, Minneapolis, Sioux City and Wichita, we were much impressed with the optimistic feeling that pervaded the men. We believe that information obtained in this way is the most

reliable, accurate and dependable that can possibly be had. If there is any better method of getting reliable information, we are not aware of it. These men have been instructed in the method of getting their information—that is to say, to estimate the buying power of the merchant, based upon his financial condition; the fact that he has paid his bills promptly and is not much indebted for merchandise; also the buying power of the people upon whom he depends for the distribution of his merchandise, and as to whether the agricultural community is much indebted to the retail dealer or not; also as to the amount of stock in the hands of the retail merchants as compared to what is usually carried at this time of the year.

Our reports were of such a cheerful nature that we thought it wise to ask other St. Louis jobbers and manufacturers to obtain from their salesmen the same information, so that we have been able to collect the reports of many hundreds of salesmen in this way, giving us information as regards business conditions and the outlook for the first half of 1911 in every State in the Union. These reports cover New England, New York, Pennsylvania, and extend to the Pacific Ocean, and on the South from the Gulf of Mexico to Canada, including the Dominion.

Status of Iron and Steel.

Before speaking of these reports it seems to me well to analyze the status of the iron and steel manufacturing industry.

In 1906 the manufacturers of all iron and steel products found themselves absolutely overwhelmed with business, and with characteristic American ingenuity and forehandedness immediately set themselves to the task of providing sufficient capacity to take care of any possible demand during the next decade.

The result is that at the present, as it is much easier to multiply capacity and to increase machinery than it is to increase demand proportionately, iron and steel manufacturing in all its branches, from the raw material to the finished product, has gone far ahead of any possible demand in the immediate future, notwithstanding our great growth in population and in wealth.

Indeed, this largely increased capacity, amounting in many instances to 100 per cent., has never been fully employed, because when all the additions and betterments were completed there came on the panic of 1907, which gave quite a damper to the demand, and since that time the

country has been in a more or less economical mood.

The manufacturing industry, therefore, of all hardware things finds itself in a position to be more than able to take care of the ordinary, healthy, normal demand that is now upon it, and must wait for the natural slow process of time to bring the demand up to the basis of supply. Fortunately, this is only a matter of a few good years, and it doesn't require a prophet to foretell that in the not far distant future, and when the present feeling of doubt and uncertainty shall have passed away, that the manufacturing capacity of this country will be strained to the utmost to fill its orders.

The real facts are that the manufacturers, as a rule, have found themselves with a good business during 1910—business that came upon them in a perfectly natural way, was for immediate wants and was normal and healthy, being such as was caused by the steady growth of the country.

Today all classes of merchants, from retailers to wholesalers, are buying as they need—buying from hand to mouth—and doing business in a perfectly safe and same manner. Manufacturers, as a rule, have reason to be content with the results of last year, for if their capacity was now back to that existing prior to 1906 they would practically find themselves straining every nerve to take care of the orders that they have in hand. It is simply that they have grown faster than the demands of the country, as such business as 1910 brought them would four years ago have been esteemed as of a boom nature and practically up to their fullest capacity to supply.

During 1910 the building trade was especially good. It was general all over the country, and, as it is practically the kernel of the hardware industry, it showed conclusively the progress of the country and the great growth that is going on.

Prices of all articles of iron and steel are normal and practically lower than for a series of years, and yet yield manufacturers a fair return on their investment. The demand is really large and would have seemed extraordinarily so five years ago, but now has to bear comparison with an enormously increased productive capacity.

It is easily within the ken of the commercial prophet to see that when the revival of business comes the longheadedness of the manufacturers of hardware will be shown in their preparedness to take care of the natural business of this great country.

The truth is that the difference between abounding prosperity and normal business, such as we now have, is the difference between natural demand and the exploitation of great enterprises that call for the use of much material and the employment of great numbers of men. We are now in the period of the normal healthy business, but the time cannot be far away when the other period will be upon us.

The Cotton-Mill Industry of the South

During the past score of years there has grown up largely but gradually in that portion of this country lying south of the Ohio River and east of the Mississippi an industry which promises, in time, to eclipse that in any other part of the world.

Cotton mills are the natural product of the South. The raw material is abundant and close at hand, and the motive power, in the shape of coal throughout Tennessee and Alabama and the water-power of the Southeast and Atlantic States, cannot be equaled either in volume or in economy in any other part of the world.

The cotton-mill industry of New England has had its coal brought to it, also

its raw material for spinning. In the great cotton-mill centers of Lancashire in England the raw material in the shape of cotton is transported thousands of miles at a great expense. The advantage possessed heretofore by New England and Lancashire was in the abundance, cheapness and efficiency of labor. In the South this problem has been met by the utilization of what has been called superficially the "poor white" labor and which up to date had no particular use in the economic world. These same poor white people have been found to be most efficient laborers. They are in plentiful supply and are fast being educated into intelligent factory hands.

Gradually in the territory mentioned there has grown up an enormous industry, 80 per cent. of which lies east of the Appalachian range. In a straight line from Atlanta, Ga., northeast to Lynchburg, Va., you can almost throw a stone from one cotton mill to another.

It doesn't take a prophet to see that it is only a question of time—and not a very long time—when this section of the United States will be the great cotton-mill industry section of the world. It is soon going to be a question not of importing cotton cloths, but of exporting, and the problem will be to find a market for the great surplus which these mills will produce. They are growing in number, in efficiency and experience. They have had their good times and their bad, and are now anchored on the firm rock of success.

The Southeastern Atlantic States have been looked upon as things of the past and that their resources have been exhausted. Those familiar with the section know that they have only begun to prosper, that their resources have just commenced to be developed, and that a section of the world little suspected of industrial enterprise is forging to the front in a way that will surprise those not familiar with the situation.

In considering the outlook for trade for the next six months it is well to look back a little and view the business of the year 1910, because we shall make comparison with that year in order to give a better idea of just what is meant by these reports.

While it is commonly believed that 1910 has not been a good business year, yet, on the other hand, the facts and figures dispute that belief, considerably, and while in no sense has it been what we might call a "boom" year, and in no ways notable as a great business year, it has not by any means been a bad year. You can ask almost any intelligent and successful merchant in regard to his business for the year 1910, and he will tell you that he has done very well; his business has been fairly good—quite up to the average; but, in his opinion, general business has been bad. In other words, he has been largely influenced by reading the expressed opinions of people who are pessimistic in their views; but as for his business, that is all right and he is quite pleased.

The business of the merchants and manufacturers of St. Louis for the year 1910 has been fairly good, quite up to the average of any 10 years in its history by comparison with previous records, and in no way could it be properly called a bad year, although far from being all that we had hoped it would be when the year started out with such bright promise. That prospect was dimmed quite soon by many things, but particularly by political disturbances and by the active efforts of demagogues and muckrakers, who have been quite in the limelight in helping to form public opinion in an unhealthy way. While the year opened with golden prospects and gave promise of being one of

the most prosperous in our history, the adverse feature soon developed—a halt was called, and a quiet, steady and conservative business ensued, and not by any means the great rush of an enormously large business that we had reason to hope for. All the same, when we come to round up the business of the year, it is not unsatisfactory.

Keeping this in mind, it is very encouraging to find that the great majority of these traveling salesmen, who have made these reports from every section of the country, distinctly state that they expect more business for the first half of 1911 than they obtained during the first half of 1910.

The stocks of merchandise in the hands of the retail merchants are exceedingly low. This is the result of doubt, fear or dread of "something" which they could not express. When a man hesitated or declined to buy as freely as usual, and was asked his reasons, he would promptly say he did not like the looks of things—that he wanted to keep "near shore" and go slow—so that the orders this year have been far more numerous than usual, and smaller, but the aggregate has been satisfactory.

Naturally, there are some sections of the country—as will always be the case—in an unpromising condition. Among these may be stated North Dakota and a part of South Dakota. North Dakota had a poor crop, and conditions there are not of the best. A part of South Dakota is affected in the same way, but the other half of South Dakota is in excellent condition. Part of Minnesota and Wisconsin were heavily hit by the drouth and crops were poor; consequently business there will not be good. A few counties in Texas have had a severe drouth, but that is a small percentage of this great State as a whole, and the crop of cotton in that State has a money value which puts the State in a most prosperous condition.

Ohio, Indiana, Michigan, Kentucky, Tennessee, Alabama and Mississippi are in good shape and give promise of an increased trade.

Iowa is in unusually good condition, with a crop of 300,000,000 bushels of corn.

Illinois, as a whole, is in good condition, and gives promise of a healthy increase in demand for merchandise.

Georgia, North Carolina and South Carolina have had a fair crop of cotton, not a good one, but the prices of cotton have made the money value of that crop larger than usual. These States encourage us to believe that they will need more goods and buy more for the first half of 1911 than they did in 1910.

In our own State—Missouri—the conditions are favorable for an increase in business of at least 10 to 20 per cent., the majority of the reports indicating the latter.

In the Central West, including Colorado, Utah and Idaho, the prospects are quite as good for business for the first half of 1911 as for the corresponding period of 1910.

California is in better shape, and bids fair to demand more goods. The prediction is that the business there will increase about 10 per cent.

In Nebraska they had a great drouth; still, the crop was not a bad one, considering its money value, and the people there have had good crops several years previously, so that the farmers are in excellent shape financially.

Far Better Than 1910.

To sum up the situation as contained in these reports—and which we believe to be accurate and reliable—the conclusions are that the promises for the first

half of 1911 are for a better business than for the corresponding period of 1910.

The indebtedness of the farmer to the merchant, and the retail merchant to the jobber, and the jobber to the manufacturer, is less than usual owing to the conservative policy of buying in small quantities and buying often that has been followed throughout the entire year, and it is our opinion that unless something new and unforeseen occurs to change these conditions we can look forward with the feeling that business for the first half of next year will be better than for the corresponding period of this year.

There are three things of great importance to bring back to us the fullest possible measure of prosperity—something equal, if not better, than we have ever had before.

The first is new and better currency laws, which shall entirely obliterate all fears of a panic.

The second is a clear and favorable construction of the Sherman anti-trust law, that all corporations may know exactly what that law means and what its provisions require, in order that they may adjust themselves to it.

The third is that prosperity should return to the railroads. We need in the Southwest and in the section distinctly tributary to St. Louis at least 10,000 miles of new railroad; we need double tracks and betterments of various kinds to make the railroad service safer and better. The building of these new roads would open up hundreds of thousands of acres of good farming land, which will never be valuable until there is a railroad depot, as a shipping point, within easy haul of these lands, in order that the farm products may be able to find a profitable market.

These three things settled satisfactorily will, in our judgment, bring back to this country a full and complete measure of prosperity. The healthy financial condition of the agricultural sections and the wonderful money value of the crop of 1910—which is estimated at \$9,000,000,000—must soon assert itself in a buying power that will make business brisk and turn the wheels of commerce in a lively manner.

From our point of view, this country can, in any event—unless some unforeseen circumstances of great influence confront us—depend upon a fairly good mercantile business during the first half of 1911, and if the crops are good for the coming year, then there is a fair probability of something approaching a boom in business matters toward the close of next year.

Agriculture.

Before closing this statement I think it well to invite your careful and special attention to the development of agriculture.

There is quietly going on, and has been going on for a number of years, the greatest, most healthy and most natural agricultural development in this country that has ever occurred in any part of the world.

Through the medium of the United States Department of Agriculture and the numerous State agricultural stations, the farmers of this country are fast being trained in intensified and intelligent farming. We have realized that we are exhausting the native fertility of soil, and it is a criticism, and rather a serious one on our methods, that in both England and Germany, where the soil has been tilled for centuries, they raise twice as much wheat per acre as in the best land in the United States.

Slowly there is growing into realization the knowledge that land is today in the United States the most valuable asset in

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the world. Farmers, with their quiet shrewdness, have seen this, and are adding to their farms and buying up land in every direction.

So longheaded a man as Judge Gary of the Steel Corporation has stated that in his belief the greatest development which now awaits us is that of agriculture. It must be remembered that agriculture is the one industry that each year adds new wealth to our resources, and is the basis of all business, and, in fact, of all national life.

In every portion of the country, from Washington and Oregon to South Carolina and Florida, the farmer is devoting more and more thought, attention and intelligence to increasing the productiveness per acre of his products and to planting the soil with those products which it is best fitted to grow. The results are slowly developing, and it is only a question of time when this will be apparent to all the country. We will in time raise about twice as much per acre of all products as we are now doing, and with very little additional expense. This means more and more each year of additional wealth and of bringing all the products of the soil more and more within the reach of the average man.

Such development is not only going to affect business by giving a stable foundation to prosperity, but will be the principal means of solving the present hard problem of the high cost of living. Population within the past 10 years has grown faster than agricultural developments, but within the next 10 years the promise now is that this will be reversed, and that all food products and things to wear will gradually be brought to a lower level.

I think it is fair to say that the information in this article was suggested by the pessimistic ideas that Mr. James J. Hill was recently reported to have given out in a public way when he said that there would be a very large number of people idle next year, and the inference from his remarks was that we would have very hard times in 1911.

As our business experience did not harmonize with any such views, we immediately began to obtain the information necessary for us to form a correct or accurate judgment of the outlook for the first half of the coming year, and we are more than pleased at the cheerful and encouraging note that comes from all these "knights of the grip" who have given us their views on the subject, after careful and painstaking consideration and with a view of having that information quite conservative, which I am sure it is.

FOR A BANNER YEAR.

From the Viewpoint of Large Rope Manufacturers.

[Special Dispatch to Manufacturers Record.]

St. Louis, Mo., January 3.

The wire-rope industry covers a variety of businesses, such as lumber and logging camps, mining, oil wells, boat and elevator builders, etc. Broderick & Bascom Rope Company of this city, large manufacturers, interviewed their agents throughout the country, referring specifically to James J. Hill's reported utterances. Circulars have just been issued summarizing replies from 37 points. These are almost unanimous in claiming this as a banner year. Here and there different notes are sounded because of location, but they are more than outweighed by the confidence of others. Salt Lake City sees a lack of investment in mining operations, but Denver believes the coming year will show big improvement. Portland, Maine, looks for moderate business, while Portland, Ore., speaking for lumber and logging, says Hill's views are not in accordance with the conditions, and

believes the year will be the biggest in the history of the city and State. Savannah says that if Hill were 20 years younger he would be less pessimistic. It admits hard conditions in lumber in that section, but finds other lines good.

New Orleans expects a readjustment of lumber prices, while Mobile reports lumbermen very optimistic, and expects things to brighten after January, depending on how soon railroad agitation stops. Chattanooga and Grand Rapids agree that iron and steel have reached the lowest marks, and that any change must be upward, and Grand Rapids adds that business in all lines will be good, but that too much politics will spoil it. Philadelphia, Pa., finds local politics has spoiled trade, but believes that prospects this year are good.

Charleston, W. Va., Indianapolis and Galveston report confidently for the hardware business, the last saying that Hill evidently is unacquainted with Texas. Toledo says that 1910 was the best year, and that 1911 promises still better. Beaumont looks for a good year. Seattle has prepared for an increased demand. Business in Corsicana, Tex., was never so good in 25 years as now, and Atlanta declares to the same effect. Minneapolis, Kansas agencies and Memphis base their belief on crop conditions. Chicago states that general business conditions are fundamentally sound, and looks for good, healthy trade. Cincinnati thinks that, if legislation on commercial matters were stopped for several years, a big improvement would follow, and that no real prosperity will come until then. Salem, N. C., looks to railroads buying to improve conditions, but says that the freight questions must first be settled and war against corporations by State legislation must stop. Birmingham expects good business if there is no tariff tinkering, and Pittsburg believes corporations have been disciplined enough. Butte, Mont., declares that this country is not going to the bow-wows. Broderick & Bascom sum up by giving their opinion that nothing can prevent this being a banner year unless it be tariff tinkering, adverse railroad legislation or general labor trouble.

A. C. BOUGHTON.

Austin Building.

Business League,
Austin, Tex., December 27.

Editor Manufacturers Record:

The Elks are preparing plans to erect a \$50,000 home on a lot owned by them. The Odd Fellows have decided to erect a hall on the corner of Brazos and 9th streets. The old First National Bank Building is to undergo extensive improvements and additions that will cost from \$20,000 to \$25,000. It is to be occupied by a drug store.

The City Council has notified all owners of property on Congress avenue running from 1st street to 11th street to lay cement sidewalks in front of same.

WILL L. VINING,
Secretary.

Paving to Cost \$170,000.

Among the cities preparing to undertake extensive paving improvements during 1911 is Huntington, W. Va. The Huntington Commissioners held a meeting last week and decided to invite proposals for the construction of modern roadbeds on a number of streets, the cost to be about \$170,000. Formal advertisements will appear soon.

It is reported that a company of Northern capitalists has closed a contract for a thousand-acre tract of land in the Mission section of the lower Rio Grande Valley to be devoted to the cultivation of cotton by irrigation.

SOME FUNDAMENTAL ELEMENTS IN SOUTHERN INDUSTRIAL DEVELOPMENT.

By DR. DAVID T. DAY of the United States Geological Survey.

[Written for the Manufacturers Record.]

The manufactured products from the Southern States increased from \$1,464,000,000 to \$2,200,000,000 in total value between 1900 and 1905. This is three times as rapid an increase as would be normal as gauged by the population. Meantime railroad mileage increased from 52,600 miles to 64,000 miles of main line trackage. One of the most remarkable features of this renaissance of Southern manufacturing is the fact that, of the twenty-one States which produced no coal, seven are in the South, and four others in the South produced altogether less than 2 per cent. of the country's total coal. Only five Southern States have a coal product sufficient for more than local use, yet it has been customary to regard as axiomatic that manufactures go to the fuel. This has certainly been true of iron manufactures in the South. The coal fields of Alabama and Tennessee have developed the closely associated iron ores and the cheapest pig-iron of the country, even permitting of export in competition with England. But not only was the formation for this laid before the period we are considering (1900-1905), but the sudden increase in Southern manufactures due to Alabama's coal was most noticeable before 1900. It may be surprising to recognize that other fuel influences have been as important for manufacturing development since 1900 as Alabama's coal was before it.

Most important has been the fuel oil of Texas and Louisiana. Real development of oil began in 1900. Year before that much haphazard prospecting, with some production, had followed the finding of tar springs in various parts of Texas, and the writer well remembers a bottle of crude petroleum from near Lake Charles, La., which was on exhibition in the chemical museum of Johns Hopkins University 30 years ago. It is interesting to note, in passing, that this oil contained no noticeable sulphur, and was locally used, at a high price, for lubricating purposes, thus sharply distinguishing it from the oil later used for fuel.

Like the great industrial development which followed the opening of the picturesque Karg gas well in Findlay, O., it was the sensational character of the Lucas gusher at Spindle Top, near Beaumont, Tex., which is responsible for the comparatively enormous development of the Texas oil fields. Without the sudden wealth for the well owners who followed Lucas, the great sums would never have been squandered in wildcatting and many years would have passed before the neighboring oil fields would have been developed. As it was, the previously insignificant Sour Lake field, which had merely kept itself alive for years, at once became a great producer. Saratoga was equally successful, and before Spindle Top waned, Butson's, Prairie and Humble in Texas, and Jennings and Welch in Louisiana, were adding their large supplies, and the lack of coal was thoroughly compensated by the cheapest fuel oil that had ever been sold in the United States. It proved beyond any reasonable doubt that fuel oil could be depended upon as a staple fuel for the development of great manufacturing in the Southwest. This is as true today as it was then. No one has since then had any serious doubt of the comparative permanency of the Gulf Coast fuel supply. This has been a significant factor in Houston's phenomenal growth from 44,663 in 1900 to 78,800 in 1910, or 76 per cent., and of San

Antonio from 53,321 in 1900 to 96,614 in 1910, or 81 per cent. Meantime growth has likewise been rapid in San Antonio and in Port Arthur, and at many other points to which the cheap fuel could easily be transported.

In Texas public sentiment, as shown by legislation, has both helped and hindered the State's industrial progress. Its railroad commission has done much to favor Houston, San Antonio and other cities, to the loss of towns in neighboring States. On the other hand, neglect of support to a State geological survey has caused the waste of hundreds of thousands of dollars in fruitless oil search. Nowhere in the world is there an oil field where the conditions could more be aided by efficient public geological work than in the peculiar conditions in which oil is found on the Gulf coast, and it would have been the greatest public thrift to have kept Dumble and Phillips in the public service, and to have invoked also by profitable salaries the highest types of outside petroleum geologists. The wisdom of this is manifest from the service which Dumble has since given to private employers, and where his scientific system of oil records are most creditable.

The recent development at Markham, Matagorda county, Texas, where great gushers have just been brought in, add assurance to the general feeling that all of the oil has by no means been discovered in the Gulf fields as yet, to say nothing of the probable supplies in the western part of the State. The recent gusher at Vinton is equally important for Louisiana. In the latter State the recent bulletin published by Prof. G. D. Harris, State Geologist, in co-operation with the United States Geological Survey, shows that the oil conditions are better understood there and the State is better disposed toward the development of the industry.

The importance of this fuel development in the Southwest was well indicated by the protective action of the merchants of St. Louis in planning the trade features of the Louisiana Purchase Exposition. St. Louis merchants have always pictured for their city a trade territory spreading out from that city as far clear across our Southwest and Mexico to South America, and it was not possible to watch with unconcern the cities of Texas growing under this new impulse of cheap fuel, just as their own cornstalks shook up under the July sun. St. Louis forgot that Boston once reached out in the same direction, with the same ambition, and her Southwestern trade still flourishes in spite of the development of Chicago and St. Louis in between, when soft coal and cheap transportation expanded these cities to great trade centers.

Far from the immediate source of this new Southern oil fuel its effects were felt in the inflowing money and consequent prosperity. Just as in the North manufacturing has blossomed from this new impulse, so in the South the people applied it to their favorite pursuit, agriculture. The rice-grower used the new power for pumping water from the bayous. The sugar-planters all adopted it for their cane mills and sugar refineries. It gave power to the cotton gins and cotton-oil presses, and in all these pursuits improved machinery came in where it would not have been introduced for years had not the new cheap fuel tempted development. Best of all, in replacing wood as fuel, it has stimulated

invention for utilizing the useless sawmill waste, and paper mills are already at work at Orange, Tex., and alcohol from sawdust will soon be an industry in Eastern Louisiana as a result of the enterprising article on that subject recently published in this journal. Such industries as cotton and corn raising and the lumber trade have always flourished because of the South's great producing capacity, and this new fuel stimulus simply added to their prosperity, while the revenue from all these products added wealth enough to admit of gigantic schemes for developing water-powers, new railroads. Even in good roads the help of oil must be recognized.

But, after all, the oil-fuel impulse has been of greatest importance in advancing the South's long suit, agriculture, and its consequent industries as the result of long years of experience. Agriculture in the South has advanced to a position where the possibilities are so well known that a slight change one way or another in prices or in general trade conditions means a considerable profit or loss from a season's crops. The influx of oil money gave a feeling of security to the farmer; it made money "easier" and it gave the chance to start many agricultural betterments and new enterprises that had been waiting for good times.

Agricultural interests in the South are overwhelmingly important compared to all the mining interests, but as the crank of an automobile gives the necessary start to a complex mechanism of which the crank is a humble tool, so our oil fuel vitalized the agriculture of the Gulf Coast. Men who came to drill for oil stayed to dig canals from bayou to bayou and drain many thousands of acres of fertile lowland for profitable crops. Through these miniature but important waterways gasoline motor boats work their way all through the Gulf coast to an extent little dreamed of five years ago. Motor boats are the reliance today of the fishermen, the oyster tonger and the tin peddler, as well as being the equivalent of the delivery wagon, and vastly cheaper; for, efficient craft can be bought for \$150 and upward. Still more efficient is the practice of buying small engines to install in all the well-known home-made boats down even to dugout canoes. Last June the writer saw more than 100 of such crafts on a trip of three hours on Terrebonne Bayou, in Southern Louisiana. Let no one forget the motor boat in telling the story of progress in all the South, especially on the Gulf coast. It is easy and profitable to split up much of the Southern oil into gasoline or "engine naphtha" for motor vehicles and a residue which is a boon to the builder of good roads.

The Standard Oil Refinery at Baton Rouge was located purposely for distributing gasoline, kerosene and fuel oil by means of the labyrinth of rivers and bayous by these cheap motor boats almost to the doors of more than half the population of Louisiana.

Instead of being any menace to the larger steamboat traffic, this motor boat navy serves as the necessary link between the larger river channels and final destination of the freight. The motor is the most hopeful sign of life for water transportation, and is so spoken of by Ramage in his masterly treatise on inland waterways, lately issued by the Bureau of Corporations.

Before leaving this mention of fuel oil in the South the future supply must be considered.

No sooner is the importance of fuel oil recognized than it brings up the question of how long it will last. Naturally this depends greatly on how long it is made to last; for, it can be squandered or conserved (i. e., used most efficiently). From the nature of the Gulf Coast oil, its yield

for gasoline for internal combustion engines is a very small percentage of the oil, and after taking this out, and another small percentage of kerosene oil, the great bulk is left to be consumed comparatively wastefully by burning it under boilers for the production of steam. To be sure, great improvement has been made in the construction of oil burners, so that there is now rivalry over which one will give 3, or even 2 per cent. greater efficiency than another, but naturally the best that can be expected by this method falls far short of what can be done by burning the oil in internal combustion engines.

Perhaps this statement may some day be fortunately modified by the commercial application of a method which the writer saw demonstrated experimentally one year ago in London. It is a startling conception. Fuel oil is started to burning, and then the jet, flame and all is injected directly into the water in the boiler itself. So that the oil and air actually burn within the boiler in the water to be heated. The gases produced add themselves to the steam thus generated and add to the pressure. As demonstrated, the process is simple enough. Oil atomized by an air jet into a fine spray was ignited and allowed to burn in the ordinary way for a few minutes. As shown to me, the flame was about eight inches long, and, like that of any other oil jet, sprayed by air. It was perhaps one-third as large as would ordinarily be used on the large scale. The flame pointed straight down toward a glass tank of water representing the boiler. After burning till the flame was well regulated and steady, the framework which held the burner was quickly lowered till the flame plunged into the water and continued to burn, generating great clouds of steam. Of course, the flame was not in actual contact with the water, but was constantly separated from it by the steam it generated. Sir Burton Redwood, the English oil authority who gave this demonstration, stated that earnest efforts were in progress to commercialize this process, with good promise of success. Its future is conditioned always by the chance that something better may be found. The direction for this "something better" seems to lie in the use of other oils than gasoline in internal combustion engines. At Morgan City, La., the writer saw two years ago a 75-horse-power engine that had been running constantly for more than a year on crude oil from Welch, La. Here is a promise for great improvement, even if for only engines of larger sizes.

While the engine-builder is thus adapting his machines to heavier oils, the oil-refiner is no less active in endeavoring to turn the crude oil into a larger proportion of gasoline and kerosene; that is, actually to extract more gasoline than the oil contains by "cracking" the oil into lighter products. This "cracking" process is old, but the cracked oils are of bad odor and burn poorly, due to insufficient hydrogen in their composition. Lately it has been proved possible to add hydrogen to the oil by heating the two together in the presence of a "contact agent," such as porous metals. The method resembles in principle the addition of oxygen through a contact agent to sulphurous acid in the manufacture of sulphuric acid. Given the general adoption of such a process, and the ideal condition of petroleum refining will be attained where any desired product can be obtained from any crude oil in the proportion best suited to trade demands.

As to the future supply of crude oil, it would be unreasonable to suppose that we have already chanced upon all, or even the greater part of, the oil deposits existing in the Gulf States, and the extension of the fields of oil and gas into Mississippi and Alabama is at least reasonably hopeful.

In any event, the oil farther north in Oklahoma has been directed to the Gulf as an outlet, and this alone secures cheap oil to the South for a long time to come.

Oil and gas can be reckoned on as reasonably permanent in the South.

What has been said of the impulse of oil power is equally true for the complimentary electric power which is available just where oil is not, in the mountainous regions. If the oil feature is here treated of more specifically than the use of water-power, it is not because of any necessarily greater importance for oil, nor because the writer is confessedly more familiar with the oil problem, but rather because water-power, with electricity as its agent, is only beginning to do what oil has already accomplished, and it has been the object to point out by the example of oil fuel what we may expect from water.

To anyone traveling along the "fall line" of the Piedmont plateau the recurring series of high power electric transmission lines suggests that the water-powers are already fairly well harnessed, and this is corroborated by the consumption of electric power in the great cotton mills of the Carolinas and Georgia. Surely electricity, as well as the higher price for cotton, has vitalized the cotton branch of agriculture, but, considered broadly, this is of little importance compared to what may be reasonably expected from water-powers when certain nearly related public problems are solved. Of first importance is settling favorably the question of an Appalachian Forest Reserve. Establish this, and then note electric development.

Considering the agricultural side alone, it should be noted that already a representative of Southern electric power corporations is in Germany negotiating for the rights to the patents for converting atmospheric nitrogen into nitrolime and other cheap and most valuable fertilizers. Attention was called a year ago to the possibilities of this use of electric power, and the inquiries within a month showed the general interest it had aroused. Within the year much has been done to simplify the two inventions for making fertilizers from the air, and outlook is good for their adoption in the South.

But by far the greatest application for electricity is still dormant in the South. That is the development of electric smelting of iron, aluminum, copper and the ores and for electro-chemical industries. This is not so important for the products themselves as because of the labor for which high prices are paid.

Considering that there are many places in the South where all three courses of power meet—oil, electricity and coal—it is evident that many new industrial centers must grow up with the rational development of these powers, and that the present volume of manufacturing is a small fraction of what is due the South.

Birmingham Iron Market.

[Special Cor. Manufacturers Record.]

Birmingham, Ala., January 2.

There were considerably more inquiries made for pig-iron the past week than had been anticipated, on account of the holidays. The furnace companies sold quite a few hundred-ton lots. The base price for prompt shipment is \$11 per ton at the furnace, and for first quality \$11.25 per ton. In a few instances, however, sales are known to have been made for the first quarter at \$11 per ton at the furnace. Then, again, it is reliably understood that some second quarter business has been taken on at \$11.25 per ton at the furnace. The policy of curtailment is still in progress, and one more stack was blown out the past week. This makes a total of three furnaces within the past two weeks that have been taken out of commission. At

least three more will be out, it is understood, within the next 15 days. This will be a material curtailment in production—something like 35,000 to 40,000 tons per month. At this rate it will not take long for consumption to wipe out the surplus on the yards. The order-books of the furnace companies are in fair shape.

There has been no material change in the water-pipe market. Manufacturers are busy getting ready for the spring trade, and buyers seem to be engaged in getting their specifications ready in anticipation of a prosperous business in 1911. Following are prices per net ton f. o. b. cars here: Four to six-inch, \$19; 6 to 8-inch, \$18; 8 to 12-inch, average of \$17, with \$1 a ton extra for gaspipe.

The writer asked a prominent scrap-iron dealer the other day how he considered things in his line, and his reply was that if he depended alone on scrap for a living he would be out of business within a short time. In quoting prices below it is understood that readers will view them only as nominal prices. They are as follows per gross ton f. o. b. cars here:

Old iron rails, \$13.75 to \$14.25.

Old steel rails, \$11.50 to \$12.

Old iron axles, \$16.50 to \$17.

Old steel axles, \$15.50 to \$16.

No. 1 railroad wrought, \$11 to \$11.50.

No. 2 railroad wrought, \$10.50 to \$11.

No. 1 machinery, \$10 to \$10.50.

No. 1 steel, \$9.50 to \$10.50.

Old standard car wheels, \$12 to \$12.50.

Light castings, stove plate, \$8.50 to \$9.

A deal has just been consummated whereby a large body of coal lands passes from the hands of the Bryan estate to Frank Nelson, Jr., president of the Empire Coal Co. The deal has no connection with the Empire Company, but is being handled by Mr. Nelson and associates. There are about 8000 acres in the tract, lying in Jefferson and Walker counties. This tract, with the 35,000 acres purchased by the Pratt Consolidated Coal Co. a few days ago, takes up all the known available coal lands in the State of a body worth considering. Mr. Nelson, when interviewed, stated that he was not ready at this time to state what the future plans as to development would be, but it is understood that the properties will be operated on a large scale, and were not bought as a speculative proposition.

The Thomas Grate Bar Co. has purchased the shop at Tenth avenue and 42d street, Birmingham, formerly operated by T. F. Johnston, and will manufacture the Thomas elliptic grate bar. Improvements are being made at the plant. Mr. Ed. L. Thomas of Valdosta, Ga., is the patentee. A full description of the patent is set out on page 80 of the MANUFACTURERS RECORD of December 15. Headquarters for the sale of this grate bar have been established in the Brown-Marx Building, Birmingham, Ala. Mr. Sterling S. Lanier will handle the product for the present, at least.

Wants to Make Rice Straw Paper.

J. A. Kenney, secretary of the Rice Growers' Association, writing from Stuttgart, Ark., states that the association has made thorough investigations as to the value of rice straw as a raw material for the manufacture of paper, and is well satisfied with the results. It is proposed to seek to interest outside capital in the building of a mill to make rice straw paper, and correspondence is invited.

The production of phosphate rock in South Carolina in the past year aggregated 201,347 tons.

During 1910 coal and coke valued at \$1,934,626 were shipped from Newport News, Va., to 16 different foreign countries.

WORKING FOR TENNESSEE'S DEVELOPMENT.

By GOVERNOR MALCOLM R. PATTERSON.
[Written for the Manufacturers Record.]

Tennessee touches on its borders eight other States, and in the fecundity of its soils, the salubrity of its climate, the purity of its streams and the attractiveness of its landscapes it is unexcelled by any other equal area in the United States.

The same characteristics distinguish her people now as existed among her pioneers, who were the only ones who fought and drove out the Indians, settled and built up the State without the assistance from the general Government.

The Nashville Board of Trade, with its membership approximating 2000, and including in this number the leaders in thought and deeds, is working in hearty co-operation with the State and city authorities for the proper development of Tennessee's wonderful and inexhaustible resources. Under the supervision of the State's Commissioner of Agriculture, Hon. John Thompson, Farmers' Institute, Experiment Station, Boys' Corn Clubs and every available means are being taken which are calculated to arouse our farmers, teaching them the possibilities of the soils as well as the varieties and value of crops which can be profitably produced.

Her fields of coal and iron are practically inexhaustible, and lie in close proximity to each other. No better place for a foundry for fine castings can be found than Nashville.

Tennessee's cereal crops for this year are: Corn, 96,300,000 bushels; wheat, 10,200,000 bushels; oats, 4,500,000 bushels, and cotton yielded 275,000 bales.

There is no State in the Union which has so great a diversity of berries, fruits and crops as Tennessee.

In addition to Nashville, the capital city, with its wonderful educational advantages and its solid commercial spirit, there is the city of Memphis on the extreme west, situated on the bluff of the Mississippi River, and famous for its cotton trade and oil-seed industry, as well as its vast lumber interests, which reach out to immense and fertile areas on all sides.

Chattanooga and Knoxville, in East Tennessee, are both thriving and flourishing cities, with a magnificent future, and surrounded by mineral stores of iron, coal and marble which are practically inexhaustible. It is doubtful whether any other Southern State can show within its borders four larger cities combining all the advantages of location, health and industry as Tennessee with those just mentioned.

State Geologist, Mr. George H. Ashley, has recently been making extensive examinations of the clays of the State, and he is convinced that exceptional opportunities for the development of large industries in the manufacture of chinaware, stoneware, artware, sanitary and porcelain ware of all kinds are offered. A plant located at Nashville would be within easy reach of the ball clay, also the necessary kaolin and feldspar.

It is a noteworthy fact that within less than 100 miles of Nashville are enough phosphate to last, at the present rate of consumption, for many, many years to come. These are of all grades, and adapted for the making of any class of goods.

Nashville is already probably the largest manufacturing point for fertilizers in the United States. Her excellent facilities as a distributing point and the enormous reserves of rock will serve all calls which can be made.

Under the present State administration our public school system is being wonderfully improved, a strong impulse is being given to good roads, and a State boulevard

from Bristol, in the northeast corner of the State, to Memphis, in the southwest, a distance of 540 miles, is assured.

Nashville and Memphis are each claiming to be the largest hardwood lumber market in the world, but be that as it may, Tennessee is in the center of the hardwood lumber district, where 75 per cent. of all the remaining hardwood in the country is located. This fact should interest the economic manufacturer.

The climate of Tennessee is a happy mean between the rigorous climate of the North and the oppressive heat of the Southern States. The extremes of heat and cold are much greater in the Northern States than in Tennessee. There the climate is colder in winter and hotter in summer. It is the most agreeable in the Mississippi Valley, in which the amount of cold and heat, rain and sunshine, are so beautifully ordered and happily distributed as to give the most vigorous health to man and beast, fruitfulness to the soil and prosperity to the State.

Her waterways are being rapidly improved.

Her people are advertising her trade, manufactures and opportunities.

In considering these it is profitable to note the beautiful and fertile agricultural country of Tennessee produces anything grown in a corresponding latitude anywhere on earth, and not yielding even to the famous "bluegrass country" of Kentucky in productiveness, while exceeding it in picturesque beauty.

Live-stock of all sorts thrive, and Tennessee has long been noted for her trotting, pacing and thoroughbred horses, her fine mules and the excellence of her Jersey cattle. It is ideal for poultry, and the product of the State in this line has nearly doubled in the past five years.

It is a matter of pride that the returns from the thirteenth census indicate a more rapid growth and development in every line in the South than in any other section of the country. The spirit of "get-together, pull together and stay together" for the South prevails. It is the spirit which will cause her prosperity to continue.

The completion of the Panama Canal will cause an additional era of prosperity to all this section, and we are looking forward to its celebration by the holding of the World's Panama Exposition, which should be held at New Orleans, the most logical point.

SOUTHERN TEXTILE PROGRESS IN 1910.

More Than \$11,400,000 Represented in Plans for New Spindles and Looms Announced for Year.

[Written for the Manufacturers Record.]

During October, November and December particulars were announced of four new plants to have 135,000 spindles and 3850 looms and of five mills to be increased by 20,336 spindles and 1065 looms in the South. That will result in an investment of about \$3,375,000 for new mills and \$508,400 for additions to established plants—a total of 155,336 spindles and 4915 looms, or an investment of \$3,883,400 for the fourth quarter of the year. The total for all of 1910 (mills reported to be built and enlarged) is 456,732 spindles and 13,089 looms, which means an expenditure of \$11,418,300 as the result of plans formulated during the year. Most of these enterprises have already contracted for buildings, machinery and accompanying improvements. This record of 1910 is a little less than half the figures of 1909, and the decreased activity is doubtless due largely to market conditions for cotton goods, decreasing the demand to such an extent that many mills both North and South were restricting production. Notwithstanding these conditions, there was creditable progress in the building of mills and the enlargement of existing Southern plants. That this continuation of activity is warranted cannot be doubted when one considers the South's natural advantages for cotton manufacturing, the fact that the normal demand in this industry is returning with improved business conditions generally, and that the demand will increase throughout the world. From week to week during the year the MANUFACTURERS RECORD has presented statements outlining details of new mills to be located and of established companies to improve and enlarge their plants. This mill news has been authentic, prepared from reports received from the various mill managers and owners. It has been summarized every three months, and the fourth quarter of the year shows gratifying conditions, not only as to the total of spindles and looms, but also as to interesting announcements of large mills completed and of plans for two mills that will each be capitalized at \$1,000,000, each with an equipment of 50,000 spindles

and complement of looms for manufacturing a fine grade of cotton goods not heretofore produced in the South, and of another fine-goods mill that will be capitalized at \$500,000. The million-dollar mills mentioned will be located at Greenville, S. C., and one of them is to manufacture India lawns and linons, while the other has not as yet announced the exact character of its output, except that it will be a grade of cloth not now manufactured anywhere in this country outside of New Bedford, Mass.

Features of the year's news have been the continuation of the movement toward the production of finer grades of cloth, the use of electricity as motive power, and an increasing interest of Northern and New England cotton manufacturers in Southern cotton milling. For instance, the two big Greenville mills mentioned are being made possible largely through the investment of New England capital to the extent of \$600,000 and \$700,000, respectively. The lawn and linen plant will be known as the Westervelt Mills, and its active manager is J. I. Westervelt of Greenville, for many years known as a successful cotton manufacturer in the South. The other Greenville mill will be known as the Dumeau Cotton Mills, and its principal promoter is Capt. Ellison A. Smyth, another well-known Southern cotton manufacturer. Another instance is a Georgia mill capitalized at \$200,000 almost entirely by Northern manufacturers, who will ship the plant's product to their Northern mills for conversion into oil-cloth. Still another instance is the \$500,000 mill, with about 25,000 spindles and 750 looms, which O. A. Robbins of Charlotte proposes to build in the Piedmont section. Mr. Robbins is a well-known mill engineer and machinery contractor, and he recently informed a representative of the MANUFACTURERS RECORD that he intends devoting his entire time and attention to this enterprise. It is therefore seen that the greatest progress of the Southern cotton-mill industry is due to the experienced cotton manufacturer, the man who is fully acquainted with South-

ern conditions and knows how to build mills to produce marketable goods at a minimum cost, and to take advantage of the possibilities of the markets both in buying raw materials and in selling the manufactured product.

An important announcement of 1910 as to the entrance of outside capital into the Southern mill industry was that of last June, when Marshall Field & Co., the great dry goods merchants of Chicago, secured control of the group of Spray (N. C.) mills and other plants near that thriving city. These plants have a total of about 50,000 spindles and 1800 looms, besides including a finishing company capitalized at \$1,400,000. Telegraphing to the MANUFACTURERS RECORD regarding this transaction, Marshall Field & Co. stated: "During the past few years the mills at Spray have been manufacturing merchandise for us in such a satisfactory manner that we felt it wise to acquire a controlling interest in order to further extend our operations. The capitalization of the mills is \$3,000,000." The firm intends to enlarge the mills as the demand arises, and the finishing plant is now being added to. It is also believed to be financing the \$300,000 high-grade gingham mill to be built at Meadow Summit, recently briefly reported in the MANUFACTURERS RECORD.

Among the Southern mills announced during the year as to be erected and now in course of construction were the following: Republic Cotton Mills, Great Falls, S. C., capitalized at \$600,000 and building a 25,000-spindle and 1000-loom plant, while planning the erection of two more mills to have about 75,000 spindles and accompanying looms, which means a further investment of about \$1,500,000; Alice Mills, Easley, S. C., a \$250,000 company to have 10,000 spindles and 300 looms; Panola Cotton Mills, Greenwood, S. C., capitalized at \$300,000, and to have 10,000 spindles, with 300 looms; Pickert Cotton Mills, High Point, N. C., capitalized at \$250,000 for 12,000 spindles and 300 looms; Simpsonville Cotton Mills, Simpsonville, S. C., an additional plant costing \$300,000, with 16,000 spindles and 400 looms; Meritas Mills, Columbus, Ga., a \$200,000 proposition, with 10,000 spindles and 170 looms to begin with, while contemplating an increase to 25,000 spindles and 425 looms; Alta Vista Cotton Mills Co., Alta Vista, Va., a \$300,000 enterprise, to have 13,000 spindles and 300 looms; Chesnee Mills, Chesnee, S. C., a \$400,000 company building for 20,000 spindles and 400 looms; Oakland Mills, Newberry, S. C., a \$400,000 project that will have 20,000 spindles and 600 looms.

There were a number of mills of importance, because of their character or extent, completed during 1910. They included the following: Erwin Cotton Mills' No. 4 plant at Durham, with 50,000 spindles and 1500 looms, the cost being \$1,000,000; P. H. Hanes Knitting Co., Winston-Salem, an \$800-spindle mill to furnish yarns for the company's big knitting plant, the cost of this addition being \$250,000, because of general mill-village improvements accompanying the establishment of the plant; Inverness Mills Co., Winston-Salem, an 8000-spindle and 200-loom mill capitalized at \$200,000; Columbus Manufacturing Co., Columbus, Ga., a \$500,000 addition, including 30,000 spindles and 600 looms; Enticastle Manufacturing Co., Rockingham, N. C., a \$500,000 plant, having 20,000 spindles and 500 looms; Martinsville Cotton Mills Co., Martinsville, Va., a plant of 18,000 spindles and 450 looms, the investment being \$400,000; Hamrick Mills, Gaffney, S. C., building an addition to contain 25,000 spindles and 624 looms; Priscilla

Mills, Meridian, Miss., an addition of 10,000 spindles that will furnish yarns for the company's knitting mill.

The list of mills announced during the fourth quarter of the year, together with the totals for all of 1910, is as follows:

Name.	Location.	Spindles.	Looms.
Alabama.			
*Tallapoosa Falls Mfg. Co.	Tallapoosa	500	
Georgia.			
Dunson Mills	Lagrange		
North Carolina.			
Fine Arts Gingham Mfg. Co.	Meadow Summit	10,000	400
O. A. Robbins	Charlotte	25,000	750
*Majestic Mfg. Co.	Belmont	4,064	
*Lowell Cotton Mills	Lowell	10,000	300
*Newton Cotton Mills	Newton		65
		49,064	1515
South Carolina.			
Dunham Cotton Mills	Greenville	50,000	1500
Westervelt Mills	Greenville	50,000	1200
*Arcade Cotton Mills	Rock Hill	6,272	200
		406,272	2300
Tennessee.			
W. J. McGill	Shelbyville		
Total		155,336	4915
Total for first quarter of 1910		143,500	4500
Total for second quarter of 1910		82,896	2314
Total for third quarter of 1910		75,000	1340
Total for fourth quarter of 1910		155,336	4915
Total for 1910		456,732	13,089

*Established mills enlarging.

AMERICAN VS. EUROPEAN MINING.*

By DR. HENRY M. PAYNE, Morgantown, W. Va.

I have no special address prepared, but at the solicitation of President Schubert I consented to give you this morning some of my impressions upon the comparison between European and American methods of mining. Since my return from Europe last fall I have had occasion to speak upon various phases of this subject before several of our State universities and mining schools, and, for convenience, I shall divide the discussion into three general heads—geologic, commercial and economic.

I assume that we are all reasonably familiar with the coal fields and general geology of America, or that this information is easily accessible. Europe may be geologically divided into three districts from the standpoint of the nature of the coal seams: (1) England and Wales; (2) Belgium and France; (3) Germany and Austria. The coal seams in the English and Welsh mines are not unlike those of West Virginia, Alabama or Wyoming in this country. Those of Northern France (Pas de Calais district) and Belgium are thin, wavy and gaseous, and for the most part very deep. The mines which I visited in the Rhenish provinces of Germany, in Upper Silesia and in Austria were in thick coal, many of them mined in benches and of moderate depth.

European ventilating methods are not dissimilar to our own, but the velocity of the air is rarely as great as in America. One striking feature to the American visitor is the absence of rectangular shafts. With the exception of the shaft mines of Scotland, and one shaft in Westphalia, sunk by a Scotchman, all the shafts are circular. The reason for this is principally that the circular-shaft lining is much stronger, and is, therefore, necessary for protection against the numerous beds of quicksand below which the coal measures lie, and because the circular shaft presents space for ventilation in the segments exterior to the cage. The older shafts have sectional iron lining or brick, but the modern shafts are being lined with reinforced concrete. Before I had visited these European mines I believed thoroughly in the rectangular shaft, but after seeing circular shafts in operation and construction I am convinced that they are superior. The skill required is no greater in the one case than in the other, and since rectangular shaft lining must be replaced in from six to ten years, as a rule, it would seem that the item of maintenance was of no considerable importance.

Taken as a whole, the mines of Belgium

*An address before the Appalachian Engineering Association.

are the most interesting of any country of Europe. Their seams are very badly folded, very thin and lie at great depths. The miners work in a high temperature, and no explosions are permitted, the mining being done either by hand or by small hand drills operated by compressed air. After visiting the French and Belgium mines, one does not wonder at the research being carried on in those countries on the dust problem. The coal is very friable, and enormous quantities of dust are created.

In Germany and Austria conditions are ideal, both as to government supervision and sociological conditions.

Coming now to the commercial subdivision, we have in this country many instances of long haul; as, for instance, the West Virginia field supplies both the Atlantic seaboard and the Great Lakes, while in Europe 50 miles is about the extreme haul. If a coal dealer wants a car of coal in England or France, he can order it in the morning, and it is delivered that evening. Many of the mines own their own cars, holding from 12 to 20 tons (four-wheel railroad cars).

An average output of three-fourths of a ton to a ton per man per day is considered excellent over there, while we consider four or five tons per man per day little enough here.

The wages of the European miner are about one-half what our miners receive, but his expenses are correspondingly low. The cost of mining, however, is invariably higher in Europe than in America, frequently reaching \$2.50 per ton at the top of the shaft.

It is from the economic standpoint, however, that we have most to learn and from which the most striking comparisons may be made. Distances, as you know, are nothing compared to this country. From London to Brussels, to Berlin, to Vienna, to Paris and back to London, is about the same as from New York to Pittsburgh, to Chicago, to Cincinnati, to Norfolk and back to New York.

Belgium is a most fascinating country. There is no space to waste. The whole country has a density of population three and one-half times that of America, and there are fewer paupers and fewer millionaires than anywhere on earth. The land is all under cultivation to the edge of the roads, the houses are neat, the people scrupulously clean and intelligent, and the public service, from steam railroads to trams and telephones, of the highest order.

The mine timber comes principally from

the Scandinavian Peninsula, since the density of population requires that all available land shall be used for farming purposes.

The great object-lesson for us, in all Europe, is the graded system of supervision of the mining industry, which, instead of hampering it, encourages its development and precludes carelessness. In Germany, notably at Bochum, are large mining schools, supported by a very small fractional tax on each ton of coal mined by the various companies, where miners are educated, not alone as mining engineers, but as practical miners, fire bosses and foremen. In France is also the famous School of Mines, and in England, at the universities of Birmingham and Leeds and the mining school at Wigan, are to be found practical schools of instruction for miners and their helpers.

The work of installing a coal-mining plant in Europe is a matter of years. The father has the engineering work done, and in the course of 10 years the designs completed and construction under way. This construction is invariably of a permanent character, with excellent houses; laid out with a view to all sanitary precautions, fire protection, public health and comfort and general appearance, and with steel tipples and brick or stone power-houses, bathhouses, etc. His son, having been trained in the meantime in one of the Government mining schools, and having served his apprenticeship under ground, gradually assumes control and succeeds his father in the business. By this time the ultimate development of the mine is completed, and the son and his son reap the dividends of their ancestors' investment and forethought. In this country the average investor in a coal-mining property thinks that he should begin to receive a dividend about the second year.

To sum the whole proposition up: The European miner has a good house, a fine garden, comes to his work as a gentleman to follow his trade, puts on his mine clothes, does his day's work, and, when he comes out, finds a well-equipped bathhouse, where he can clean up and go back to his home as a gentleman. Mining under such conditions is a profession. But how few such miners do we get here? We take some man who was probably never in a mine before he came to this country, give him a pick and shovel and send him in the mine with a "buddy."

After a few weeks his "buddy" is sick or absent some day, and our newly made miner proceeds to blast down his own coal. Or it may be that regular shot-firers are employed at that mine. Still our new man realizes nothing of the danger of the open lamps or the broken safety lamp, and, in his ignorance, imperils or destroys the lives of the hundreds of men working with him.

We have yet to learn in this country the value of strict supervision over every man who enters the mine. Rather than pay a cent or five cents more on each ton of coal for such a system, the consumer continually objects, and yet howls at the appalling mining disasters so frequently occurring. It is true that, per number of men employed, our death rate is higher than that of Europe, but, per ton of coal mined, it is lower than any other country on earth.

The American public has howled: "Get out the coal at the least possible cost, in the least possible time, in the best possible condition." Then when an explosion wrecks a mine and kills scores of miners the operator is blamed for carelessness. Yet more men are killed by falls of roof rock every year than by explosions. More men are killed and maimed in automobile accidents and as trespassers on railroads than in the mines.

Eight and ten years ago black powder

was abolished and permissible explosions were introduced abroad. The hydraulic mining cartridge became such a factor in England and Austria that in January, 1910, the Austrian Government forbade the use of explosives in any of its gaseous mines, and this method of bringing down coal has for several years been in use in three-fourths of the coal mines of England, and is now being rapidly introduced in Austria.

During the past 10 months I have visited every prominent mining district in Europe, and during the past five months have been in at least one or two of the largest mines in each of our coal-mining States, and I am sure that, in general methods of mining and equipment, our mines are equal and superior to those abroad. We pay less attention to landscape gardening and fancy buildings, and we get out quantities of coal incredible to our foreign contemporaries, but the large coal-mining corporations of this country are spending all their available surplus at the present time in research and investigation and rescue equipment and safeguards of all kinds for their miners, and I believe they are doing and will continue to do everything possible to save human life. The American people should submit to such slight additional cost of coal as might be made necessary in the interest of human life.

Family Fruit.

[Tampa Times.]

In the lead of a collection of family hints going the rounds of the press we note one beginning "In buying canned fruit for a small family." It is no matter about the balance. Never buy canned fruit for a small family. Buy the fruit in the natural state and let mother put it up. You will have better stuff and more of it, while mother will have a chance to show her combined talent and love for her folks. We are always sorry for a family whose backyard or garbage barrel contains discarded cans bearing evidence that they once contained the canned fruit of commerce. Show us a family where mother always puts up the fruit therefor, and we can permit you to bet that it has an industrious, steady and happy father, hard-working, home-loving sons, and dutiful, studious, modest and lovable daughters.

We do not mean to say that the properly prepared fruit makes the difference. Not at all. The fruit and the family are the twin products of the same mother-love and devotion which sees that her dependent people have something fit and attractive to eat. The same devotion to the husband and children that furnishes forth a table as luxurious as means can fairly afford also takes the successful task of guiding and guarding and enlightening everyone who comes within the happy radius of its province. Invade that home at any time and you will find its members where they ought to be and doing what they ought to do. Enter the home during the afternoon of a family that stacks tin cans to the ceiling of the kitchen shelf, and you will learn that the mother is tired and overworked, and the boys non est and the girls at the picture shows. But the kind of canned fruit is only the sign thereof. Still it is worth while, if you belong to the hand-me-down fruit brigade, to try the home-made article for a year or two. You will at least get better stuff to eat if you do not effect any considerable ethical improvement.

The address by E. H. Hinton at the annual banquet of the American Association of Freight Traffic Officers on New Orleans as the logical point for the Panama Exposition in 1915 has been published in pamphlet form.

Tobacco and Cotton in Durham's Growth.

[Special Correspondence Manufacturers Record.]

Durham, N. C., December 31

Within 30 years Durham has grown from a small, straggling village to a well-built, prosperous industrial center with a population estimated by local authorities at from 25,000 to 30,000.

The foundation for the development of Durham has been the tobacco business, which has grown to enormous proportions in recent years, and there has been added a very important development of the cotton-manufacturing industry.

Durham today has magnificent Federal and municipal buildings, and local enterprise has accomplished the erection of very handsome bank and office buildings. There is an excellent water supply, and the water-works and sewer systems are up to date. There are schools and hospitals of proportions and with facilities unsurpassed in the South, and altogether the development of Durham is of the most interesting and significant character.

It is especially noteworthy, as well as distinctively commendable, that the men who got their financial start in Durham are spending here vast sums of money in both a public and private way. In the foundation and endowment of schools, hospitals, etc., great liberality has been shown, while on the other hand there have been enormous investments in industrial and other business enterprises. Most of these activities have come from the Dukes and their allied interests, they being the people of greatest wealth in the community, as well as conspicuously rich among American captains of industry.

It is an always interesting story, that of Durham's foundation and expansion as a tobacco-manufacturing center. The story goes that during the war, when Sherman's army campaigned in the Carolinas, the Northern soldiers found some of the bright yellow leaf grown in Eastern North Carolina, and became so enamored of its exceptionally fine quality for smoking purposes that on their return to their homes in the North they spread the news of the excellence of the North Carolina tobacco, with the result that orders for tobacco were sent to tobacco-raisers in the golden tobacco belt. At this time several farmers began in a most crude and primitive way to pound out and pack up the weed for the purpose of supplying the increasing demand. The Dukes had been tobacco-raisers from before the war. Brodie L. Duke early saw an opportunity for building up a business of some magnitude. He left the home farm and went into the manufacture of tobacco on the outskirts of Durham. He lived in the upper floor of a two-story cabin, pounded the tobacco out at night on the floor with a flail and peddled tobacco by day. His success induced his father, Washington Duke, and his brothers, B. N. and J. B. Duke, also to remove to Durham, and, locating adjoining B. L. Duke, they began making tobacco in 1874 under the name of Washington Duke & Sons. In 1878 Mr. George W. Watts, whose father had been in the tobacco business, and who was himself familiar with the business, removed from Baltimore and joined the Dukes. He effected a consolidation under the name of Washington Duke, Sons & Co., the capitalization of the new company being \$70,000. The two factories were at that time 35x40 feet each, and it was considered a great piece of enterprise when they ran the amount of business up to \$100,000 a year. In 1910 the Dukes and their associates did \$10,000,000 worth of business in their Durham factories. The growth of the Dukes has been continuous. The company

was incorporated in 1880 with a capital of \$250,000, which was not added to until 1890, when the American Tobacco Co. was formed, with a capital of \$25,000,000, in which the Duke interests had \$7,500,000 stock. The present capitalization of the American Tobacco Co. in bonds and stock is \$225,000,000. The Dukes and their close friends retained a controlling interest, but have sold some of their holdings and invested that money and surplus earnings in water-powers, electric roads, cotton mills, etc. Their percentage of holdings in the American Tobacco Co. is therefore not so great as when the company was formed, although the aggregate interest is very much larger.

The growth of the Duke fortunes, as well as the enormous expansion of the American Tobacco Co., is considered to be due to the genius of J. B. Duke, the youngest of the three brothers, but a man thoroughly familiar with every branch of the tobacco business, from the raising of the leaf to its marketing and the financing of operations in a gigantic way. The Duke company started a branch factory in New York in 1887, and J. B. Duke went there at that time. He has since then made New York his headquarters. He was the first manufacturer to appreciate the cigarette-making machine. The rights to the Bonsack machine were secured by the company in 1885, and it was put in use in 1886. A good hand can roll 1000 cigarettes a day; the Bonsack machine can make 20,000 an hour. Through the initiative and genius of J. B. Duke machine cigarettes were introduced throughout the country, one of the chief means being advertising on an unprecedentedly large scale. The year before the Dukes went into the American Tobacco Co. \$809,000 was spent for advertising cigarettes and smoking tobacco.

The American Tobacco Co. today owns 75 per cent. of the larger tobacco factories throughout the country. They believe that their operations have been carried on along perfectly legal lines. If it shall be determined that their methods are legitimately subject to attacks they announce their readiness to change their methods, but they will remain in the tobacco business.

Some time ago the British American Tobacco Co. was organized, and by agreement it was given control of all foreign business outside of America and England, while the Imperial Tobacco Co. handles the trade of Great Britain. The American Tobacco Co. owns two-thirds of the stock in the British American Co., and the Imperial Tobacco Co. one-third. The British company has factories in this country, but the American company sold its factories in Great Britain, China, South Africa and elsewhere to the British American Co.

About six years ago the Duke interests took over the factory of the Bull Durham Tobacco Co., which had been made famous by W. T. Blackwell, and which afterwards was in the hands of the company of which Gen. Julian S. Carr was for some years at the head. At the time the Dukes took hold this factory turned out about 3,000,000 pounds of smoking tobacco a year. The past year the output of this factory was 20,000,000 pounds.

The Duke branch of the American Tobacco Co. in Durham now has two large factory buildings, with 10 warehouses and six annex houses, covering a ground space of more than 16 acres. About 3600 people are employed, and the weekly payroll is \$18,000. The value of the sales per annum of the American Tobacco Co. at Dur-

ham is \$20,000,000, of which \$4,000,000 represents cigarettes and the balance smoking tobacco.

Besides the enormous investments the Duke interests have in tobacco manufacturing, they are interested in a number of cotton mills in Durham and elsewhere throughout North Carolina and South Carolina. The Golden Belt Manufacturing Co. in Durham is engaged exclusively in making tobacco bags for the brands of smoking tobacco made by the Durham factories and factories elsewhere. The cloth is spun and woven here, and the bags turned out to the number of hundreds of millions every year. This plant is owned by the American Tobacco Co.

The Erwin Cotton Mills Co. has four factories, two in West Durham, one in Duke, 56 miles south of Durham, in Harnett county, and one in Cooleemee, 12 miles from Salisbury, in Davie county. Duke and Cooleemee are mill towns exclusively. Together they employ about 2200 hands and support a population of 8000 people. B. N. Duke is president of the company; Geo. W. Watts, vice-president, and W. A. Erwin, secretary and treasurer. The company is capitalized at \$4,000,000. The mills turn out denims, wide sheetings, camlets, draperies, cantons, tickings, mottle flannels and coverts. The product of the mills is disposed of in New York and Philadelphia. In addition, the Duke interests own the Pearl Cotton Mills, Durham, engaged in the manufacture of wide sheetings; the Durham Cotton Manufacturing Co., making fine ginghams and chevrons. They are thus interested in cotton mills in Durham and in the immediate territory, representing an investment of nearly \$6,000,000. This does not take into consideration the enormous investments in hydro-electric power development and distribution systems, which they hold at various points throughout North and South Carolina, representing a present valuation of between \$13,000,000 and \$15,000,000. The Dukes are also interested in national and savings banks in Durham. They have invested \$600,000 in a railroad 60 miles long, running from Durham to Dunn, and called the Durham Southern Railway. Mr. Watts, who is affiliated with the Dukes in practically every one of their enterprises, is, besides being a director in the Durham Southern Railway, a director in the Seaboard Air Line. Mr. Watts built the Loan & Trust Building, at a cost of \$80,000, and is interested in other development work in Durham. His most magnificent work of a public nature is, however, the founding and endowment of the Watts Hospital, which to date has cost \$327,000, and which has an endowment of \$200,000. It is a beautiful specimen of architecture, and is pleasantly located on a slightly elevation in the suburbs of Durham. It is provided with every possible convenience, and in equipment has no superior south of Johns Hopkins at Baltimore. Since completion, a short time ago, it has been found necessary to add other buildings, and it is Mr. Watts' intention to continue to add to the original structure as further accommodations may be needed.

The most important benefaction of the Dukes themselves is Trinity College. This institution, very prominent among the universities of the South, was founded by the late Washington Duke, but since his death the development of the original plan has been carried on by his son, B. N. Duke. Seven hundred and fifty thousand dollars have been spent to date, and the largest endowment fund of any college in the South has been established. There are 17 buildings on the college grounds, completely equipped with every known convenience for the furthering of the educational work. There is a library with 50,-

000 volumes, a gymnasium and a natatorium. The curriculum is of the broadest and most comprehensive. Religious influence, as well as educational facilities, are features of Trinity College, and it is also of note that students are brought in touch with the practical affairs of life through the work of an advisory board, which discusses with the students all their difficulties and problems and undertakes to get them in touch with the industrial world, with legal affairs of the city and county, and the practical world in general.

Outside of the activities and interests of the Dukes, there are other forces at work in a broad way for Durham's development, although what they have done necessarily overtops all others in the aggregate. There are other cotton factories and tobacco factories in Durham besides those maintained by the Duke interests, a notable industry being that of the Durham Hosiery Mills Co., largely an enterprise of Gen. Julian S. Carr and his family. The Durham Hosiery Mills Co. has two mills at Durham, and one each at Chapel Hill, High Point and Goldsboro. These are engaged in knitting hosiery. Their main offices are in New York city.

An interesting enterprise in Durham is a hosiery mill owned and operated exclusively by negroes, and which has achieved a quite notable success.

The Durham of today is a very bright, attractive city of industries, schools and homes. Its railroads, its climate and the excellent start it has made in all lines should result in a very much greater growth within the next few years. All North Carolina is steadily progressing, and is attracting a degree of attention which should result in a very material development of its resources and industries, as well as a large increase in population. I believe that in Durham, as elsewhere, the rate of growth and progress is entirely in the hands of the local people. The right kind of effort ought to make Durham a city of 50,000 within the next decade.

ALBERT PHENIX.

NATIONAL LIVE-STOCK.

The American Association's Meeting Next Week at Fort Worth.

[Special Cor. Manufacturers Record.]

Board of Trade.

Fort Worth, Tex., December 26.

A convention of more than ordinary significance is the meeting of the American National Live-Stock Association, to be held in Fort Worth January 10, 11 and 12. Matters of unusual importance to cattle raisers, railroads, the Interstate Commerce Commission and to the Tariff Commission charged with recommendations to Congress will come up for final action at this meeting of what is probably the richest and most powerful organization in the West, and upon the decisions of this body, representing hundreds of millions of dollars, and the greatest industry in the West, the future of the Southwest and that of the nation to no small degree will depend.

President H. A. Jastro of Bakerfield, Cal., has issued a call from the association headquarters at Denver Col., to each of the thousands of members of this organization, urging them to be present at this meeting. Fort Worth is making elaborate preparations for the entertainment of the 5000 delegates, and an elaborate program is promised.

In addition to the regular membership, all live-stock producers throughout the country will be invited to attend. Speakers of national importance, among whom are Gifford Pinchot, Secretary of Agriculture Wilson and Dr. Melvin, chief of the bureau of animal husbandry, which is charged with the eradication of animal dis-



NEW HOTEL IN WHICH LIVE STOCK CONVENTION MEETS.

cases in the United States; Senator Cary of Wyoming and Alvin H. Saunders, member of the Tariff Commission, have accepted invitations to be present at this meeting.

Association Secretary T. W. Tomlinson has opened temporary headquarters in Fort Worth, and is arranging the details in connection with the work and handling the voluminous correspondence necessary to a gathering of this magnitude.

Convention headquarters of the association will be located at the Westbrooke Hotel, a hostelry just opened, erected at a cost of \$1,000,000 and having 350 rooms. This addition to the already large number of local hotels will insure the comfort of every visitor.

PAUL E. PALMER.

MARKETING COTTON GOODS.

Further Discussion of a Textile Industry Question.

Chas. T. Wolfe, president Puritan Cordage Mills, Louisville, Ky., writes to the MANUFACTURERS RECORD:

"I should like to supplement my letter of recent date regarding the present condition of the cotton-mill industry by stating that the objective point to a Southern cotton-mill association should be toward a co-operative selling agency. That is, each branch of the cotton-mill industry should either sell its product direct by its own salaried representatives or else sell its product through a common agency. Let the cordage manufacturers all have the same New York representative, the yarn manufacturers have their representatives, the cloth manufacturers have their representative, etc., and let each mill industry be interested in its particular selling agency; that is, in the profits of the selling agency. If this idea is not acceptable to all, it only proves the need of a gathering place for the manufacturers. We cannot discuss satisfactorily these various questions through the papers. It takes frequent meetings to work out satisfactory results, and this is why we need a permanent association and clubrooms."

J. C. Saunders, treasurer and manager Bonham Cotton Mills, Bonham, Tex., writes:

"I have not been engaged in the manufacture of cotton very long, and therefore do not feel competent to suggest any important changes in the methods of selling the products. I have been impressed with the general dependence of the mills regarding this, the vital function of their organization, and in looking about for similar conditions in other important industries I fail to find any other important commodity that is sold with so little of the maker's personality involved; in fact, the identity of the mill is lost as soon as the goods leave his mill, and in many cases both

mill and buyer are kept in the dark as to each other's identity. The manufacturer of the South seems to have developed into a machine whose purpose it is to grind out some goods of certain weight, width and count that are designated by the selling agent and buyer, under prices and terms with which he has very little, if any, voice. So long as the farmer sold his cotton at a price that would enable the manufacturer to meet the buyers and selling agents' views of value and leave him a margin, everything was satisfactory to both parties, but now the farmer has been able to raise the price of the cotton about seven cents per pound above what had been decided as a normal value, and the mills realize more fully than ever before what a helpless and dependent position they hold in the present system of marketing their own products. Lack of sufficient finances to run their plants doubtless accounts for this condition more than any one other factor. I believe there is but one remedy for these troubles, and that is, to organize; not in restraint of trade, not for any illegal purpose, but organize for education; get together on the fundamental right to protect the industry at large from any condition, either without or within, that tends to destruction and ruin. Surely we can plead the inherent right of self-protection. The vested financial interests of the Southern mills demand a fair return. If this is not forthcoming mills will close down, and the result will be far-reaching. If we are to have 15-cent cotton the Southern mills that convert this into staple products must be able to command a profitable price from the buyers, and really this advance represents so little to the individual buyer that I wonder, after all, whether he is the one that is raising the objection."

Bought 31,000 Coal Land Acres.

[Special Dispatch to Manufacturers Record.]

Birmingham, Ala., January 4.

Another large coal-land deal has been consummated by the Pratt Consolidated Coal Co. of this city, whereby it becomes the controlling factor in 31,000 acres of coal lands in Tennessee, including the Tracy City property of the Tennessee Company. The Pratt Consolidated has for some time owned coal properties in Tennessee, and has been interested in other coal properties there. It was by consolidating these interests, together with the purchase of additional new acreage, that this large tract was bodied up. G. B. McCormack stated that the present openings on the property would be worked, and that in the future development work would start.

It is estimated that \$43,860,000 were invested in the Birmingham district in 1910 in industrial and railroad undertakings and in new buildings.

GOOD ROADS

WEEK'S HIGHWAY RECORD.

Progress in Southern Road and Street Improvement.

[Full details of highway undertakings are given in the Construction Department.]

Bonds Voted.

Brookhaven, Miss.—Lincoln county has voted to issue \$150,000 of bonds for constructing 60 miles of gravel road.

Bonds to Be Voted.

Fort Worth, Tex.—City votes January 5 on issuance of \$300,000 of bonds for paving streets.

Contracts Awarded.

Bartlesville, Okla.—City has awarded contract for grading, curbing, guttering and sewers on East 3d street.

Gainesville, Fla.—City has contracted for vitrified brick paving of seven blocks, costing about \$20,000.

Jacksonville, Fla.—Duval county has awarded contracts for grading, paving and curbing to cost \$8900, shell paving to cost \$6000 and boulevard grading to cost \$2300.

Contracts to Be Awarded.

Athens, Tenn.—McMinn county received bids until December 31 for constructing three-mile road.

Farmville, Va.—City will receive bids on a percentage basis for engineering the construction of 1400 feet of pavement 42 feet wide; material not decided.

Huntington, W. Va.—City will invite bids for street paving to cost \$170,000.

Muskogee, Okla.—City opens bids January 5 for grading, curbing with granite, paving with vitrified brick and constructing sidewalk.

Palatka, Fla.—City will receive bids until February 7 for the construction of 16,500 square yards of concrete sidewalks.

Pine Bluff, Ark.—City opens bids January 2 on grading several streets.

Automobiles and Roads.

In his address at the organization meeting of the Coast Country Good Roads Association at Liberty, Tex., Mr. John W. Gates said:

"The question of good roads is stirring the entire population of the United States and the civilized world. The two chief needs for greater prosperity in the Gulf Coast country from Tampa, Fla., to Brownsville, Tex., are, in my judgment, good roads and plenty of deep water. I happen to be a member of the Automobile Club of America. They have, I think, about 6000 or 8000 members. Their headquarters are in New York city. The club was started about nine or ten years ago. They have just built a clubhouse which cost in the neighborhood of \$3,000,000. They are advocates of good roads.

"I had occasion a short time ago to inquire as to the number of automobiles shipped from the United States to Europe by American tourists, and I found that last year 37,000 left the port of New York alone. That meant probably four times 37,000 people, or about 148,000 persons touring Europe in these cars. If we could build good roads from New Orleans to San Antonio, there would not be a steamship from November to April that would not have automobiles aboard for shipment to New Orleans or Galveston for touring parties through this Coast country. Automobile owners, as a class, are progressive men, often men of means. We want them to see this country, learn of its opportunities.

"The road across Liberty county, Texas, is a link in the chain running from New Orleans to San Antonio. The road across Liberty county is about 35 miles. The cost of improving it will be, say, \$4000,

or a little more per mile, say \$140,000 to \$150,000 for the whole; this amount obtained from the sale of 50-year or 75-year bonds. I will not undertake to figure what this would mean in annual taxes based on the taxable valuation of the district which would issue the bonds, but it would be a very small amount.

"The average foreigner, disposed to travel and tour in America, thinks that he can use his machine only in the cities. If we can form this great highway, we can attract those tourists and undoubtedly persuade them to travel in the Coast country in large numbers.

"We may be able to reproduce some of the conditions which exist abroad. Over there the hotels and stores are making money from the auto-tourist traffic. It is a source of revenue all along the line. For example, I arrived at Geneva, Switzerland, last July. I stopped at the Hotel Beau-rivage, and in the course of conversation asked the proprietor how many people he had in the house at that time. He said he had 127. 'How many of the 127 are Americans?' I asked. 'Mr. Gates,' he replied, '110 of them are Americans.' I talked with the proprietor of one of the best hotels in Europe, the Adlon, at Berlin. 'What percentage of your receipts from May to November do you derive from Americans?' I asked. He replied: 'Over 80 per cent.' I then asked, 'What percentage do you derive from automobile owners and their friends and guests?' He said: 'Fully 60 per cent. of my money from Americans come from people who come in their automobiles, and I think ultimately we will run the house as a strictly automobile hotel—that is, making all arrangements, every convenience, and doing all the catering with an eye to this class of business.'

"With this road put through Liberty county, in 10 years' time your land will double in value, beyond doubt. You cannot go into any speculation or investment that will net you the same profit, with equal safety, as building this road.

"Some years ago the New York *Herald* started a campaign for good roads from New York to Atlanta, Ga. They kept up the agitation for years. One of the editors told me he thought the agitation had created bills costing the *Herald* \$100,000. Aside from that, however, what has been the consequence of that remarkable campaign? Today you can get into your automobile in Wall street or Broadway and you can go to Atlanta, Ga., with perfect roads all the way. As a direct result of these improvements land that was selling at from \$15 to \$25 an acre along that path is selling today at from \$25 to \$50 an acre.

"On Monday of this week I was in Jacksonville, Fla. The president of the Florida National Bank took me out for a drive. He said: 'I want to show you something. I think it is the wisest thing we have done here. We have just voted \$1,000,000 in bonds to connect with Atlanta.'

"Atlanta is building more and more hotels. They cannot take care of the people. A certain undertaking in that city in which I am interested is now building a million-dollar hotel.

"In conclusion, I want to say that there is no richer or more fertile country on God's green earth than the Gulf Coast country of Texas. All you need is good drainage, good roads and transportation by water. You can get them all, but you have got to pull together. It does not make any difference where a man is from, whether it be Port Arthur, Beaumont, Houston, Galveston; no matter where, country or city, all are interested directly in good roads and every citizen reaps their benefits."

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

OKLAHOMA ELECTRIC.

Plans and Charter for an Important Connecting Line in Four States.

An interurban railway enterprise which promises to be of considerable extent has developed in Oklahoma by the incorporation of the Oklahoma Short Line Electric Railway Co. to build two main lines, one from Oklahoma City to Joplin, Mo., about 175 miles, and the other from Shawnee, Okla., to Denison, Tex., about 125 miles. The estimated cost of construction is \$30,000 per mile. The capital of the company is \$1,000,000. The incorporators are C. C. Wright of Ada, Okla.; M. J. Bentley of Tecumseh, Okla.; Leroy Paddock of Oklahoma City, Okla.; C. Z. V. Sanders of Albenmarle, N. C., and T. W. Armentrout of Kirkwood, Mo.

Mr. Bentley is reported as saying that construction will begin January 20, and that the first line to be built will be between Shawnee and Muskogee, to be followed by a line from Shawnee to Oklahoma City, and next from Shawnee to Denison. An extension will be made from Muskogee to Joplin. Rails weighing 85 or 90 pounds to the yard will be used. Headquarters will be at Shawnee, Okla. It is said that foreign and American capitalists are interested. The company is to be organized immediately at St. Louis.

A power plant will be built in the coal fields east of Shawnee, and the shops will be located there. Options and right of way are being secured. It is proposed to connect with interurban railways in Texas, Oklahoma, Kansas and Missouri, so that it will be possible to ride from Kansas City to Dallas on electric cars.

REVISION AND TWO TRACKS.

Louisville & Nashville to Spend Several Millions for Betterments.

A dispatch from Louisville, Ky., quotes W. L. Mapother, vice-president of the Louisville & Nashville Railroad, as saying that the company will practically rebuild its line from Edgefield Junction, Tenn., via Nashville to Decatur, Ala. This will include revision of line and grades. Surveys and estimates have been made, and its estimated cost will be from \$3,000,000 to \$4,000,000.

Mr. Mapother is further quoted as denying the report that a new line would be built some distance away from the old one, but he says that the road will be double-tracked when it is reconstructed. At Nashville, to avoid conflict with yard traffic, a line will be built outside the city, so that through freight trains can be run that way. Other revision and improvement work is in contemplation to be done as needed.

A TENNESSEE INTERURBAN.

Construction of Nashville-Gallatin Line to Be Started by June 1 Next.

The Nashville-Gallatin Interurban Railway Co., says a letter to the MANUFACTURERS RECORD, will be incorporated by February 15 to build the proposed line from Nashville to Gallatin, Tenn., 30 miles, including sidings. There will be four steel bridges of about 100 feet each, resting on stone piers, besides other smaller steel bridges. It is expected to begin construction by June 1 next. The route lies through country of rough to rolling formation.

H. H. Mayberry of Franklin, Tenn., who will be president of the line, will have charge of all work, which will be done through the railway's own construction

company, which will establish an office in Nashville. Preparations for the work are being made as rapidly as possible, and all details, including surveys, rights of way and franchises, are expected to be in proper shape by the time the incorporation is made.

Nashville and Gallatin and the country between them have subscribed \$100,000 to the stock of this company, as requested, and the line will be speedily built. Connection will be made with the Nashville Railway to operate the interurban cars through that city, which will permit transfer of passengers.

It is understood that the Nashville & Franklin Interurban Railway, which was built by Mr. Mayberry, is making a satisfactory showing, and that more interurban roads are desired around Nashville.

RAILWAY AND LIGHT PLAN.

Merger Projected for Enterprises in Western Maryland and Pennsylvania.

W. W. Staub of Pittsburg, Pa., is reported working on a plan to merge electric railways and lighting plants in Allegany county, Maryland, and in Somerset county, Pennsylvania, capitalists of New York and London to finance the enterprise. The South Penn Railways & Light Co. has been incorporated for the purpose, and among those mentioned in connection with the deal are John Hartshorne, Rodman W. Hicks and George K. Preston.

It is proposed to connect the Cumberland & Westernport Electric Railway with the Pennsylvania & Maryland Electric Railway and make a through line from Cumberland over the mountains to Meyersdale, Garrett and other points in Pennsylvania, including Berlin, Somerset and Johnstown. An extension to Keyser, W. Va., and another to Hyndman, Pa., are said to be contemplated. Edwin S. Johnson of Pittsburg is said to be making a survey for the connecting link.

It is proposed to build a large power plant to provide current, the cost thereof to be about \$450,000, and options on a tract of coal land are said to have been obtained.

DETOUR AT LYNCHBURG.

Southern Railway Completes Valuable Improvement for Fast Service.

The difficult task of building a low-grade double-track railroad through the rugged hill country at Lynchburg, Va., and across the ravines which surround the city has just been completed by the Southern Railway Co., which announces that it expects to begin the operation of passenger and freight service over the new line very soon.

There has been an entire change of line for seven miles from Winsap, north of Lynchburg, to Durmid, on the south, the most important construction features being a tunnel 1300 feet long under Rivermont, a suburb; a tunnel 120 feet long under Park avenue; a steel bridge 1800 feet long and 150 feet high over the James River; steel viaducts 600 feet long and 115 feet high over Harris Creek, 1000 feet long and 135 feet high over Blackwater Creek and 500 feet long and 80 feet high over Fishing Creek; a concrete viaduct 700 feet long, carrying 5th street over the railroad yards in West Lynchburg; a concrete viaduct 150 feet long, carrying the Lynchburg water supply; a steel viaduct 150 feet long, carrying spur track of the Norfolk & Western Railroad, and a concrete bridge 80 feet long, carrying 12th street.

The completion of this extensive work, which has been under way four and a half years, the contract having been let on April 2, 1906, and the first work done in May of that year, is of great importance

because the benefits will not be confined to the country immediately surrounding Lynchburg, but every point on the Southern Railway south of there will be given better freight and passenger service. By the new line the heavy grades north and south of Lynchburg, which are now such an obstacle to through traffic, will be avoided, and the substitution of double track for single track will result in better handling of freight and passenger traffic. All the through passenger and freight trains will run over the new line. Local trains will use the old line.

CAROLINA TRACTION CO.

Electric Railway to Connect Winston-Salem, N. C., With Floyd, Va., and Other Places.

The Carolina Traction Co., according to a report from Winston-Salem, N. C., has decided to award contracts immediately to build its contemplated interurban electric railway from Winston-Salem via Rural Hall, Lawsonville and Danbury, N. C., to Floyd, Va., about 102 miles. This will include a branch to Danbury. Dr. H. P. MacKnight of Southern Pines, N. C., is the promoter of the company, which proposes to issue \$2,000,000 of bonds. Headquarters will be established at Winston-Salem. It is intended to build the road within 18 months. A power plant at Dan River is to be erected for the operation of the line, the company having acquired water rights there.

It is further stated that contracts will be let not later than January 10, and work is to begin immediately thereafter. A contract has already been awarded to the Wessels Tie Co. for 250,000 railroad ties.

The directors of the company are: President, Gen. A. M. Clarke of Southern Pines, N. C.; vice-president, Dr. J. W. Sykes of Raleigh, N. C.; general manager, E. L. Kraft of Indianapolis, Ind.; director-general, Dr. H. P. MacKnight of Southern Pines; master mechanic, T. E. Walker of Cincinnati, O.; secretary, J. W. Kraft of Indianapolis; purchasing agent, Robert Lee Walker, Indianapolis; treasurer, H. M. McAlister, cashier of the First National Bank, Lumberton, N. C.

New Equipment, Rails, Etc.

The Louisiana Railway & Navigation Co. and the Kansas City Southern Railway Co., according to a market report, have ordered 1000 tons of rails each from the Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

The Houston (Tex.) Electric Co., it is reported, will order five semi-convertible cars with double trucks and 10 trailers, also with double trucks.

The Atchison, Topeka & Santa Fe Railway, it is reported, has ordered 500 refrigerator cars from the American Car & Foundry Co., St. Louis.

The Chattanooga Railway & Light Co., Chattanooga, Tenn., it is reported, has ordered 10 prepayment cars 29 feet long from the G. C. Kuhlman Car Co., Collinswood, O.

The St. Louis Southwestern Railway is reported getting prices on 500 furniture cars, 500 refrigerator cars and 1500 box cars.

Western Maryland Report.

The Western Maryland Railway Co. has issued its first report, which covers the operations of the company for the first six months of 1910. It shows operating revenues \$3,644,067, increase as compared with the same period of 1909 \$785,637; operating expenses \$2,026,027, increase \$188,067; net operating revenue \$1,618,039, increase \$597,570; total net revenue \$1,621,240 increase \$600,669; operating income after deduction of taxes \$1,510,

240, increase \$588,669; gross corporate income \$1,806,934, increase \$628,856; net corporate income after the payment of interest, rentals and other charges \$967,997, decrease \$57,975. After the payment of the dividend on the preferred stock, amounting to \$200,000, there was left a balance to the credit of profit and loss of \$467,997. The ratio of operating expenses to operating revenues was 55.6 per cent., a decrease of 8.7 per cent.

It is noted from the general auditor's statement that the gross operating revenue for the entire fiscal year was \$7,081,857, increase \$1,129,161, or 19 per cent.; operating expenses \$4,102,521, increase \$396,793, or 10.7 per cent.; net operating revenue \$2,979,335, increase \$732,368, or 32.6 per cent. The gross earnings per mile for the year were \$13,042, an increase of \$2079; net earnings per mile \$5486, increase \$1348; the ratio of operating expenses to operating revenue 57.93 per cent. for the year, decrease 4.32 per cent. It is noted that increases of wages were granted all classes of employees, although the full effect of these advances was not felt until the closing month of the fiscal year.

There were laid during the year 38½ miles of new 90-pound rail at several points, and the main line from Baltimore, Md., to Elkins, W. Va., is now laid with rail averaging more than 88½ pounds per yard. Reference is made to the completion of the second track between Baltimore and Emory Grove, and important revisions of line on the road to Gettysburg, besides other improvements heretofore noted.

Richmond, Fredericksburg & Potomac

The seventy-eighth annual report of the Richmond, Fredericksburg & Potomac Railroad for the year ended June 30, 1910, shows total operating revenues \$2,331,548, increase as compared with the next previous year \$305,223; operating expenses and taxes \$1,419,921, increase \$119,129; net revenue from operation \$911,627, increase \$186,093; gross income \$915,424, increase \$189,890; net income after the payment of interest on bonds and rentals, also expenditures to maintain earning power and for depreciation \$464,486, decrease \$92,437. It may be noted that the expenditures and appropriations referred to reached a total of \$277,835. After the payment of dividends, etc., the balance transferred to profit and loss was \$116,126.

The expenditure of nearly \$278,000 was for additions and betterments in the way of new and heavier rails, spurs and sidings, elevation of track and other improvements, but principally for the freight and passenger stations and rearrangement of track at Fredericksburg, work on the James River branch and for locomotives retired from service. The entire mileage is now laid with heavy rail, and the track is ballasted with a superior quality of washed gravel, making the roadbed practically without dust. It is said that this ballast is regarded as equal to broken stone and almost as cheap as unwashed gravel, because the sand taken out by the washing process was sold for almost enough to cover the cost of washing. Land has been secured to furnish gravel for many years.

B. & O. Construction Work.

The Baltimore & Ohio Railroad in its work during the past year finished the line between Chevy Chase, Md., and Georgetown, D. C., which was practically completed at the close of 1909, and was therefore reported in the annual review of construction for that year. This line is 8.32 miles long, and provides a long-desired freight route into Georgetown.

The company is now building an extension of the Quemahoning branch railroad from Acosta to Somerset, Pa., 9.41 miles,

about one-third of which is completed. It has also built a line about four miles long from the Monongahela River Railroad at Worthington Station to the Annabelle mines. The completion of the extension from Acosta is being done by Eyre-Shoemaker, Inc., the contractor.

A Lumber Railroad Extending.

A press report from Orangeburg, S. C., says that the Blake Lumber Co. has built a standard-gauge railroad about 15 miles long from Rowesville, which is on the Southern Railway eight miles southeast of Orangeburg, to a point about 15 miles distant, known as Four Holes, and it may be extended further to either Elloree or Holly Hill. It is said that the line now constructed extends from Rowesville across Cow Castle Creek and the Charleston public highway to a thickly-settled agricultural region, and that construction is still under way. The line is being used for hauling timber to the company's sawmill, but it is said that regular freight service will soon be put on, and that a passenger service may be started.

Washington & Choctaw Chartered.

The Washington & Choctaw Railway Co. has been chartered in Alabama to build a line about 30 miles long from Yellow Pine, which is a station in the western part of Washington county on the Mobile & Ohio Railroad, and near the Mississippi boundary, northward into Washington and Choctaw counties to a point about 18 miles south of Butler, which is the county-seat of the latter county. It will open up valuable timber and farming land. The authorized capital is \$700,000, of which \$200,000 are paid in. Headquarters at Yellow Pine. The incorporators are J. W. Gilchrist, George T. Baker, J. T. Burlingame and S. H. Bolinger.

Tidewater Obtains Franchise.

The Tidewater Railroad has finally been granted a franchise in Birmingham, Ala., the Mayor having signed the new ordinance. This is the enterprise in which George T. Bishop of Cleveland, O.; J. M. Dewberry of Birmingham and others are interested. The line immediately to be constructed is from East Lake through Birmingham to Ensley and Bessemer, and will require the construction of about 34 miles of track. Eventually the line is to be extended to both Tuscaloosa and Gadsden. The parties interested own the Tuscaloosa Belt Line, and the plan, as heretofore reported, is to connect with steamers and barges at Tuscaloosa. The road will be operated by electricity. The new ordinance requires that the line shall be built within two years.

Wrightsville, Adrian & Lyons.

President T. J. James of the Wrightsville, Adrian & Lyons Railroad, Adrian, Ga., writes that the work is already well advanced, 35 miles having been graded. The company expects to do all the construction, including the bridging, and then put ties on the completed grade with the funds subscribed, after which bonds will be floated to pay for the rails. The entire road will be 48 miles long, connecting Wrightsville, Adrian and Lyons, Ga. The bridges are three pile trestles, aggregating 2200 feet in length. The route is generally level. Connections will be made with the Seaboard Air Line and the Georgia & Florida Railway at Lyons.

The New Bridge at Louisville.

An issue of \$10,000,000 of bonds has been authorized by the Kentucky & Indiana Bridge & Railroad Co. at Louisville, Ky., and one-half of the issue, it is announced, has been sold to J. P. Morgan &

Co. of New York. The name of the company has been changed to the Kentucky & Indiana Terminal Railroad Co. The company is now building a new bridge across the Ohio River at Louisville, which will cost about \$2,000,000, and about that much money will also be required out of the new bond issue to retire old securities. The bridge will be used by the Baltimore & Ohio Railroad, the Southern Railway and the Chicago, Indianapolis & Louisville Railway.

Burlington's Extension South.

The Burlington system built during the past year the Herrin & Southern Railroad in Illinois, which will extend into Kentucky, as heretofore reported, connecting with the Louisville & Nashville road. The line is about 88½ miles long, and extends from Herrin Junction to Hudgins Junction, about 14¼ miles, and from West Vienna to Metropolis, Ill., about 24¼ miles. It is expected to prove an important part of a north and south route between the Great Lakes and the Gulf.

Railroad Notes.

A dispatch from Newbern, N. C., says that the new union depot erected there by the Atlantic Coast Line and the Norfolk Southern Railroad has been opened for business.

Francis Lee Stuart has been appointed chief engineer of the Baltimore & Ohio Railroad to succeed A. W. Thompson, promoted to general manager. He comes from the Erie Railroad, with which he has been connected for the past five years.

The railroad of the Brown Lumber Co., running out of Longview, Tex., 18 miles toward Gilmer, is reported to have granted an option for a possible conversion of the line to an electric railway, which shall reach Gilmer, Marshall, Henderson, Tyler and other points.

The Seaboard Air Line is reported to have nearly completed the concreting of the Roper tunnel in Alabama, 17 miles out of Birmingham, and it will soon be again in use. Since the timbering in the tunnel was burned and a cave-in occurred the railroad has been operating its trains by way of a line across Roper Mountain. The tunnel is about 360 feet long.

A dispatch from Waycross, Ga., reports that the Fitzgerald, Ocilla & Broxton Railroad may soon be acquired by the Atlanta, Birmingham & Atlantic Railroad. The Fitzgerald, Ocilla & Broxton road is 45 miles long from Broxton to Irwinville, Ga., via Fitzgerald, Ocilla and other points. Connection with the Atlanta, Birmingham & Atlantic is made at Fitzgerald and Osierfield. H. C. McFadden is president and general manager of the line.

Germany Wants Hard Pitch.

Schaler & Staudacher, Hansahaus, Friesenplatz, Cologne, Germany, write the MANUFACTURERS RECORD:

"There is at present good opportunity for American Manufacturers of so-called 'hard pitch' (in German, Hart Pech) to export to Germany, and if the American prices are low enough to compete with the European goods we might easily be able to place very large orders with the American firms. The prices should be made e. i. f. Rotterdam, Antwerp and Hamburg (or Bremen), so if you would publish this in your columns we would be very much obliged to you."

To Operate in Kentucky.

The Blue Ribbon Coal Co. of New York city has incorporated in West Virginia for the purpose of developing coal lands in Kentucky. Among the incorporators of the company are Robert R. Mackay, Edwin O. Wagner, William DeL. Walbridge, Francis M. Leach and others.

TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the MANUFACTURERS RECORD. We shall be glad to have such matters at all times, and also to have any general discussion relating to cotton matters.

SOUTHERN KNIT GOODS.

Companies Organized in 1910 Have Over \$1,100,000 Capital.

For several years past there has been creditable activity in the organization of companies announcing plans for building knitting mills and of established companies to enlarge their plants, in the South. During 1910 there were 25 companies formed, and their aggregate capital stock is \$1,194,500. These new plants are adding materially to the production of knit goods in the Southern States, where there were 178 mill companies, with a capitalization of \$9,506,500, on January 1, 1910, so that the capital represented at present is approximately \$10,701,000. North Carolina leads, with 77 companies, capitalized at \$3,087,000; Tennessee is second, with 29 companies, capitalized at \$2,354,000; Georgia is third, with 33 companies, capitalized at \$1,311,000.

Hosiery is the principal product of the Southern knitting plants, and underwear of various kinds is also manufactured. A majority of these mills are of small equipment as compared to mills in Northern and

Eastern cities, but a number of them are of considerable extent. While most of them own their knitting yarns, a few spin their own yarns. The largest Southern manufacturer of knit goods is the Durham Hosiery Mills of Durham, N. C., which is capitalized at \$1,000,000 and operates 1750 machines, with accompanying dyeing and finishing equipment, on the production of fine seamless and fleeced cotton hosiery. Some other extensive mills are the following: Huntsville (Ala.) Knitting Co., capitalized at \$300,000 and operating 6114 spindles, 38 knitting machines, dyeing and finishing apparatus, etc.; Cedartown (Ga.) Knitting Co., capitalized at \$150,000, with 100 knitters, finishing equipment, etc.; Alden Mills, New Orleans, with \$500,000 capital and 5000 spindles, 300 knitters, dyeing and finishing equipment, etc.; Richmond Hosiery Mills, Rossville, Ga., capitalized at \$200,000, with 400 knitting machines, dyeing and finishing apparatus, etc.; Skyland Hosiery Co., Flat Rock, N. C., capitalized at \$300,000, with 200 knitters, etc.; Scotland Cotton Mills, Scotland Neck, N. C., with \$200,000 capital and 140 knitters, dyeing and bleaching and finishing equipment, etc.; Kibbourn Knitting Machine Co., Martinsburg, W. Va., with \$500,000 capital stock and 350 knitters, dyeing and finishing equipment, etc.; Excelsior Knitting mills, Union, S. C., with \$150,000 capital stock and 265 knitters, dyeing and finishing equipment, etc., and the Standard Knitting Mills, Knoxville, Tenn., capitalized at \$200,000 and having 500 knitting machines, with dyeing and finishing apparatus, etc. Many other important and large plants could be named.

The 25 new organizations announced during 1910 were as follows:

Name.	Location.	Capital stock.
F. M. Boyd.	Chester, S. C.	\$25,000
Edgar Lee Hosiery Mill.	Dallas, Ga.	10,000
Durham Hosiery Mills Co., No. 4.	Durham, N. C.	139,500
Durham Textile Mills.	Durham, N. C.	50,000
Frederick Knitting Mills.	Frederick, Okla.	100,000
Palmetto Hosiery Co.	Jonesville, N. C.	50,000
Appalachian Mills Co.	Knoxville, Tenn.	50,000
Lee Hosiery Manufacturing Co.	Liberty, N. C.	50,000
National Hosiery Mills.	New Orleans, La.	50,000
Ooltewah Hosiery Mills.	Ooltewah, Tenn.	50,000
Robersonville Hosiery-Manufacturing Co.	Robersonville, N. C.	100,000
Charlotte Hosiery Mills.	Rome, Ga.	30,000
Elbe Hosiery Mills.	Sanford, N. C.	10,000
North Carolina Hosiery Co.	Coleman, N. C.	100,000
J. T. Fuller.	Villa Rica, Ga.	10,000
W. H. Hite.	Aiken, S. C.	15,000
Hallman Mill Co.	Montmorenci, S. C.	10,000
Hambden Hosiery Mills.	Morrisstown, Tenn.	30,000
Norfolk Knitting Mills Corporation.	Norfolk, Va.	50,000
Berryton Mills.	Berryton, Ga.	100,000
Elliot Knitting Mills.	Osage, Okla.	25,000
Fidelity Hosiery Mills Co.	Hickory, N. C.	30,000
Northside Knitting Mill.	Norfolk, Va.	50,000
Houston Underwear Mills.	Knoxville, Tenn.	50,000
Total capital stock.		\$1,194,500

Indian Cotton Industry.

The official report of the International Federation of Master Cotton Spinners and Manufacturers' Associations contains a full account of the visit which the secretary of the federation, Arno Schmidt, paid to India a short time ago. The *Textile Mercury* states that while in India Mr. Schmidt devoted some attention to the spinning and manufacturing conditions there. His account of visits to mills and mill districts appears in the official report referred to, and is full of interesting points bearing on the quality of labor and the quantity of machinery in use there.

The report notes that the cotton factory system of India is almost as old as that of Lancashire, the first mill having been erected there in 1817 on the banks of the Hoogly, near Calcutta, which, however, does not seem to have had a very successful career. There is a record of another mill having been erected in India in 1851, and the first of the Bombay mills was built in 1854. Since that time the Bombay Presidency has become the Lancashire of India, and the growth of the cotton industry in India has been continuous, so that at the end of 1909 there were 259 mills, 6,053,231 spindles and 78,898 looms, with

an average of 236,924 operatives employed, consuming 7,381,500 hundredweight of raw cotton. Hand loom weaving is also carried on in all parts of India, both on improved and primitive methods.

As regards the labor in India mills, the report indicates a very poor quality. It puts down the unwillingness of the operatives to work steadily mainly to laziness, and evidently the labor problem in the cotton-mill districts is difficult and embarrassing, and the trouble in regulating the workers is very great. They sometimes absent themselves for months at a time without leave, and in some places, men are specially employed to drum the workpeople together. It is a striking picture to see in the mill yards large numbers of operatives loitering about, crouching down, chewing and drinking, and even sleeping, and to make up for this irregularity it is customary in some mills to engage about 25 per cent. more operatives than would otherwise be necessary. A Lancashire operative usually performs as much work as five or six India mill workers, and, besides, the latter exhibit a tendency toward dishonesty, even to the extent of stealing parts of the machinery. As an offset to all these disadvantages, it

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is noted that the average pay of these operatives is only about \$5.76 to \$6.24 per month, paid monthly.

Duncan Cotton Mills.

The Duncan Cotton Mills of Greenville, S. C., will be organized by Messrs. Ellison A. Smyth, J. Adger Smyth, Jr., and associates to build the high-grade cloth plant mentioned last week. This company will be capitalized at \$1,000,000 and have an equipment of 50,000 spindles, with about 1500 looms. Its capital is being furnished by New England, New York and Charleston investors represented by the Messrs. Smyth, and Greenville investors are asked to furnish \$100,000, which amount is now being subscribed.

Cuero Cotton Factory.

The Cuero (Tex.) Cotton Factory will expend \$50,000 for improvements, mentioned in December as planned. It will erect additional buildings, install 2000 spindles, with accompanying picking, carding and weaving machinery, overhaul present equipment and install humidifiers and steam-heating plant. John Hill of Atlanta, Ga., will be the engineer in charge. J. C. Saunders of the Bonham Cotton Mills, Bonham, Tex., will be the manager.

Priscilla Yarn Mill.

The Priscilla Mill, manufacturer of hosiery at Meridian, Miss., has completed its yarn-spinning plant announced some months ago. It has erected buildings costing \$17,000 and installed a 5000-spindle equipment costing about \$83,000. All the machinery is driven by electricity, the motors being for 150 horse-power. Other details were stated previously.

Glenola Cotton Mills.

The Glenola Cotton Mills of Eufaula, Ala., has organized with J. P. Foy, president; E. P. Thomas, vice-president, and C. A. Covey, secretary-treasurer. This company was reported incorporated in November to acquire the Barbour Cotton Mills of 5800 ring spindles and 148 broad looms. Its capital stock is \$50,000.

The Dunson Mill.

The Dunson Mill of Lagrange, Ga., has engaged J. E. Sirrine of Greenville, S. C., to prepare plans and specifications for its plant. This company was reported incorporated several months ago with an authorized capital stock of \$1,000,000, and W. S. Dunson will be superintendent of the mill.

Will Weave Cotton Cloth.

The Newton (N. C.) Cotton Mill has decided to weave cotton cloth from the yarn production of its 8000 ring spindles. It will build a 75x104-foot addition, of mill construction, and install 60 looms. All contracts have been awarded.

Cloth from Cactus Fiber.

C. B. Marcon of Sumter, S. C., wants to obtain cloth made from cactus fiber, and invites correspondence on the subject.

Textile Notes.

It is reported that Stuart Maxwell of Philadelphia is planning to operate the Oklahoma Cotton Mills Co.'s knitting mill at Chickasha, Okla.

The Lowell (Mass.) Bleachery has appointed a committee to investigate the advisability of building its St. Louis branch plant, mentioned last week as contemplated by the company.

The Prairie View Development Co. of Houston, Tex., is locating a cotton-duck mill at Prairie View and wants to correspond with the manufacturers of the necessary machinery.

LUMBER

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

Southern Building in 1910.

A brief review of Southern and South-western building operations during 1910, as indicated by reports from a number of representative cities, shows a general and substantial increase both as to the number of permits issued and the value of construction as compared with previous years. In those localities where a decrease in the value of operations is noted local conditions have been largely responsible for the falling off. A gratifying aspect of the year's record is the large number of dwelling-houses erected, especially in industrial centers, indicating that not only are Southern conditions propitious for good living, but the opportunities for earning a livelihood are numerous and inviting. The value of construction in Birmingham is estimated at \$3,500,000. These figures embrace an expenditure of \$2,423,597 for 1443 new structures, the remainder being for alterations and repairs. As a whole, the year was the best Birmingham has ever had, and it is announced that prospects for 1911 give promise that even this record will be surpassed. By almost \$2,000,000 Atlanta's building operations for 1910 exceed those of the best previous year. In 1909 permits were issued for a cost of construction aggregating \$5,551,951, which was the best record Atlanta had ever made, but during the year just closed permits were issued to the value of \$7,405,720. The two most important structures for which permits were issued are the Gatins Hotel and the Third National Bank building. In Augusta a total of 1340 permits was issued during the year, representing a cost of construction of \$439,216, while Macon's operations involved an expenditure of \$1,038,086. The total cost of construction for which permits were issued in Charleston, S. C., was \$751,530, which is an increase of approximately \$350,000 over the value of operations in 1909. In Columbia the cost of building construction during the year is estimated at \$387,637, representing a total of 577 permits. Of these, 336 permits were issued for new structures to cost \$379,077 and the remainder for alterations and repairs. Operations in Charlotte represent an expenditure of \$955,821, which is an increase over the value of operations in 1909 of about \$150,000. In Winston-Salem a total of 325 permits was issued, representing a cost of construction of \$820,040, the greater portion of which was for the erection of dwellings. Operations in Durham involved an expenditure of \$188,750, of which the greater portion also was expended for residences.

Although a number of permits for structures which were expected to have been issued in December will not be issued until January, 1911, building operations in Memphis during 1910 indicate a cost of construction amounting to \$6,010,876. These figures represent a total of 3400 permits and show an increase in the value of operations of \$4,686,501 as compared with 1909. In Knoxville a large decrease in the value of operations during 1910 as compared with the previous year is noted. During the year just closed permits were issued for construction amounting to \$491,008.50, whereas during 1909 operations were valued at \$812,225. This showing is partially explained by the fact that during the past year many large building operations were undertaken immediately outside of the city limits, of which no record was kept at the office of the building inspector in the city. A total of 2383

permits was issued in Louisville during the year, representing a cost of construction estimated at \$3,689,910. Included in the operations are structures of various kinds, some of which are imposing and costly. In St. Louis a total of 6922 permits were issued during the year for new structures, involving an expenditure of \$17,640,874, together with 2399 permits for alterations and repairs involving an expenditure of \$1,833,614. Permits were issued in Kansas City to a value of \$13,783,196. These figures are in excess of last year's operations by \$414,458.

According to a report issued by the department of public works of Little Rock, building operations in that city during 1910 represent a cost of construction amounting to \$1,380,548. These figures cover a total of 892 permits. Operations were active in Oklahoma City during the year, the cost of construction being estimated at \$5,500,000. Prominent structures erected include the Herskowitz building, erected at a cost of about \$250,000; Terminal building, costing about \$200,000; Good Home building, costing about \$175,000, and the Levy building, costing approximately \$145,000. Permits were issued in El Paso during the year to a value of \$1,144,657, indicating an increase of about 35 per cent. as compared with operations in 1909. Operations in Dallas involved an expenditure of approximately \$4,250,000, showing an increase over 1909 of nearly \$1,000,000. Norfolk had a good building year during 1910, the value of structures for which permits were issued being estimated at \$1,611,300. These figures represent a total of 576 permits, of which 333 were for residences, 27 for stores, 9 for apartment-houses, 113 for alterations and repairs, and the remainder for miscellaneous construction.

The report of the building inspector of Richmond, which has not yet been announced, will show that operations in that city during the year involved an expenditure of about \$4,000,000, an increase over 1909 of about \$500,000. In Baltimore a total of 29,013 permits were issued during 1910, covering all classes of construction and involving an expenditure of \$14,538,435. Permits were issued for new structures to the number of 2708, representing a cost of construction of \$11,388,453, while the remainder was for minor improvements and alterations.

Will Rebuild Furniture Factory.

Announcement is made that the Cramer Furniture Co. of Thomasville, N. C., whose factory building No. 1 and a portion of its storage and finishing building were recently burned, will rebuild its plant on a more extensive scale than the one destroyed. The factory building will be of brick construction, equipped with modern machinery and with other structures will be provided with an automatic sprinkler system and fire walls between the buildings. The rebuilding will begin at once, and will involve an expenditure of approximately \$125,000. It is stated that plant No. 2 will also be enlarged and remodeled by the erection of an extension 220x70 feet. The Cramer Furniture Co. manufactures upholstered chairs and rockers, medium grades of various kinds, cane and rattan products, etc. It has developed a large trade, and its territory embraces the United States.

Purchases Timber and Leases Mill.

J. H. Clendenon of Atkins, Ark., has purchased from J. H. Fry of the same city the timber on approximately 1000 acres of land formerly belonging to Fry Bros. of Atkins. It is stated that 80 per cent. of the timber consists of a fine grade of white oak, and the remainder of red oak. Mr. Clendenon will develop the

property, and has leased a mill from J. H. Fry for this purpose. Mr. Fry states that after the timber has been removed it is his purpose to put the land in cultivation.

Buys Hardwood Timber Land.

A dispatch from Texarkana, Ark.-Tex., states that the K. & P. Lumber Co. of Naples, Tex., has purchased the Berry tract of timber land near Red Water, Tex., for a consideration of \$75,000. It is reported that the company will construct a tramway for the purpose of conveying the timber to Red Water, whence it will be shipped over the Cotton Belt Railroad to the mill at Naples. The tract is said to contain about 30,000,000 feet of hardwood timber.

Purchase Mississippi Timber.

A dispatch from Columbia, Miss., states that Hunter, Benn & Co. of Mobile, Ala., have purchased about 40,000,000 feet of timber about five miles north of Columbia. The deal was consummated through Morris & Caraway, and is said to involve about \$100,000.

New Cooperaage Plant for Memphis.

A report from Memphis states that W. L. Fay of the Dixie Cooperaage Co. will erect and equip a keg cooperaage plant in South Memphis. It is stated that a site has been secured and that the plant will be equipped for a capacity of from 600 to 800 packages per day.

FOREIGN NEEDS

Machinery and equipment wanted abroad are mentioned in many letters received by the MANUFACTURERS RECORD, which is so widely read in foreign countries that we are in constant receipt of many letters from all parts of the world. For the benefit of our subscribers seeking foreign trade we publish the following extracts from recent letters:

Cotton Goods and Paper.

Mario M. Covo, Salonica, Turkey, writes the MANUFACTURERS RECORD:

"I am greatly interested in Cabot shirting and colored cotton goods, particularly in small pieces from one to ten yards long, and of various widths. I beg you to place me in communication with suitable houses which can export these goods at prices advantageous to me. I enclose you sample of white shirting which Manchester offers in pieces 30 yards long and one yard wide at 9/2 per piece c. i. f. Salonica, 2 1/2 per cent. discount and 2 1/2 per cent. commission. I could sell right now 2000 to 3000 pieces of quality shown if I can get it at the right price. I also enclose you sample of bill or placard paper which we import from Germany in sizes 56x74 and weighing 22 grammes to the square metre (40 inches); of quality shown I could sell about 50,000 kilos (100,000 pounds or over) of various colors, without difficulty. I will pay for all these goods with sight draft on London upon receipt of shipping documents. I am flattering myself that all my endeavors with your kind assistance will finally bring the results at which I am aiming in trying to establish or rather broaden commercial relations between America and Turkey."

Agricultural Machines, Hardware, Etc.

Lion & Co., P. O. Box 44, Sao Paulo, Rio de Janeiro, Brazil, write the MANUFACTURERS RECORD:

"We advise you that we do a large trade in American products, and are chiefly interested in hardware and sanitary goods, also agricultural instruments, and would thank you to recommend our firm to manufacturers who desire to do an export trade to this district."

MINING

COAL MINING IN 1910.

The Output Neared the Record-Breaker of 1907.

According to reports received by the United States Geological Survey from coal-mine operators and others familiar with the industry, the production of coal in the United States during 1910 was between 475,000,000 and 485,000,000 short tons, a considerable increase from the output of 459,715,704 short tons in 1909, and approximately within 1 per cent. of the maximum previous record of 480,363,424 tons produced in 1907.

The most important factor influencing the coal-mining industry in 1910 was the prolonged strike in Illinois and the Southwestern States. This strike or suspension, which started on April 1 pending an adjustment of the wage scale, was not finally settled until September 15, and after that date much time was lost in putting the mines into condition for operation, so that the period of idleness in the mines affected was fully six months. The settlement was a practical surrender of the operators to the demands of the miners, with an increase of 5.55 per cent. in wages. A similar increase was granted in a number of other States, either before the strike was called or during the suspension or subsequent to it. During the idleness many of the miners who were on strike in Illinois obtained employment in the mines of competitive States and helped to increase the output of those States, which offset the shortage in the States affected.

Notable increases in production were made in the western counties of Kentucky, in Western Pennsylvania and in Ohio, West Virginia, Alabama, Colorado, New Mexico and Montana. The States whose production was reduced by the strike were Illinois, Kansas, Missouri, Arkansas and Oklahoma. It was claimed by the miners' organization that on June 1, 1910, 70,000 miners were idle in Illinois, and 35,000 in the Southwest—that is, in Kansas, Missouri, Arkansas, Oklahoma and Texas. About the middle of May the operators of two important districts in Illinois seceded from the Illinois Coal Operators' Association, which was in contest with the miners' union, accepted the miners' terms and went to work. Other mines which were not represented in the association were also operated during the strike, so that from 25 to 30 per cent. of the normal output of the State was being produced at the time the strike was ended, and this continuous production was a potent factor in bringing the operators to terms with the miners.

Of the total production in 1910, the anthracite mines of Pennsylvania contributed nearly 83,000,000 short tons and the bituminous mines between 390,000,000 and 400,000,000 tons.

With the exception of the western district of Kentucky, West Virginia received the most marked benefit from the shut-down of the mines in Illinois and the Southwestern States. The production of coal in West Virginia in 1910 is estimated to have exceeded 60,000,000 tons, an increase of nearly 20 per cent. over that of 1908. Most of this increase was in the counties in the southern portion of the State, although the northern counties showed increased activity. In addition to the marked increase in the shipments to the West, there was also an increase in the tidewater shipments, the Virginian Railway and the new developments along its lines adding materially to this tonnage. The production in Maryland and in Virginia was about the same as in 1909.

The stoppage of work in the mines affected by the strike of 1910 was of material benefit to the competing field of West-

ern Kentucky. This is exhibited in the fact that the shipments over the Louisville & Nashville Railroad from this district for the first 11 months of the year showed an increase of 69½ per cent. over those of 1909, and the evidence is that approximately the same increase was shown all through the Western Kentucky coal field, whose total production was estimated at 9,550,640 short tons, as against 5,578,161 short tons in 1909. If a natural increase of 10 per cent. is assumed for the year, the strike of 1910 added fully 3,350,000 tons to the production of this field. Although the district is non-union, the labor supply was entirely adequate, even for the increased tonnage, indicating that many of the miners made idle by the strike in Illinois and the Southwestern States sought employment in Western Kentucky. The car supply during the strike period was ample, but after the mines in the striking States had resumed operation cars were taken from this district for distribution through other regions and production was cut down in consequence.

The total production of coal in Kentucky during 1910 was between 30 and 40 per cent. over that of 1909, the mines of the eastern districts not showing the same proportion of increase as those in the western district.

Reports from Alabama indicate that the production in that State in 1910 reached the unprecedented total of 15,000,000 tons, as compared with 13,703,910 tons in 1909. The increase was due chiefly to the prolonged strike in Illinois and other Western States, and second to the river conditions which existed during the year and which materially reduced the shipments from Pennsylvania and other Northern States to New Orleans and other lower Mississippi River points and added to the demand from that section for Alabama coal. The demand created by the shortages in the West made up for the dullness in the iron market, which was pronounced during the year and was still decidedly noticeable at the close of the year, with promise of continuation during 1911.

There were no strikes of any consequence in the Alabama coal mines, and the labor supply was, on the whole, satisfactory, although in places there was a decided shortage. In some parts of the State it was reported that the car supply was the best in recent years, but in others quite the contrary was the case.

The coal-mining industry of Alabama was affected during 1910 by two bad disasters, which, together, cost the lives of 131 men. The first was at the Mulga mine on April 20, and cost 40 lives; the second was at the Palos mine on May 5, and cost 91 lives. The number of lives lost in these two accidents was more than the total number of lives lost in the coal mines of Alabama either in 1909 or 1908.

In Tennessee the year 1910 goes into history as one far from satisfactory from the coal producers' standpoint. The markets were not equal to the production, as a consequence of which prices were low. The low spot prices induced a large number of important consumers to purchase their coal in the open market rather than on long-term contracts. The production was about the same as in 1909. The labor supply in Tennessee was generally good, particularly during the summer, but with the resumption of mining in the Central States a shortage of labor occurred. Considerable complaint was made also of insufficient car supply.

The coal-mining industry of Illinois and the Southwestern States, including Kansas, Missouri, Arkansas and Oklahoma, was demoralized for nearly six months in 1910 by the struggle between the miners and the operators over the wage scale. It was the most protracted and bitterly con-

tested of all the strikes in the history of the bituminous regions, beginning on April 1 and continuing until September 15, and was finally settled by the practical surrender of the operators to the demands of the workmen. There were, of course, in all the States some mines which operated throughout the strikes, and about the middle of May the operators in two of the important districts seceded from the operators' association and resumed work. It is estimated that about 25 per cent. of the usual tonnage was produced at these mines during the strike period, and this production, together with the inroads made by West Virginia, Pennsylvania, Ohio and Western Kentucky coals into the markets of the affected States, finally compelled the surrender to the miners.

In anticipation of the strike on the first of April, the mines of the Mississippi Valley region were operated with unusual activity during the first three months of the year, and about 50 per cent. of the increase over the normal tonnage was won during this time. After mining was resumed in September there was a strong effort to make up for lost time. The decrease in production which resulted from the strike was between 10,000,000 and 15,000,000 tons. The most lasting effect of the strike, outside of the markets lost through the invasion of coals from other States, was the migration of the miners to the States which were unaffected by the strike, so that while the car supply was good, particularly in Arkansas and Oklahoma, and the demand was unprecedentedly heavy after mining was resumed, the labor supply has been entirely inadequate. The suspension in the Southwestern States gave exceptional opportunity for coals from New Mexico, Colorado and Alabama to make new and heavy inroads in the markets naturally tributary to Oklahoma and Arkansas. It also gave substantial encouragement to the development and expansion of the use of lignite in Texas. The industry in Arkansas and Oklahoma has suffered from other troubles than the strike. There has been a strong tendency on the part of the miners to use increased quantities of powder, and it is also stated that dynamite is frequently used, a practice which is not only dangerous to life and property, but results in a largely-increased percentage of slack. Moreover, it is the practice in nearly all the mines to shoot off the solid. This also is extra hazardous, and has increased the quantity of slack so that it is now double what it was 15 years ago. This results in the complaint by purchasers that coal which appears to be lump coal on arrival easily disintegrates as a result of the crushing strain to which it has been subjected by the mining methods employed.

In addition to the other disorganizing influences, the coal industry of the Southwest has suffered from the continued competition of cheap fuel oil and of natural gas. The industry in Arkansas is expecting to lose a considerable portion of its business from the piping of gas from the Caddo field of Louisiana to Little Rock, Hot Springs, Pine Bluff and intermediate points.

Copper, Lead and Zinc.

The production of blister copper in 1909 from ores mined in the United States was 1,002,951,624 pounds, of which Tennessee produced 19,207,747 pounds, Virginia 231,971, North Carolina 120,451 and Texas 3456, a total for the South of 19,563,625 pounds. Compared with 1908, there was a decrease of about 500,000 pounds in Tennessee and large increases in North Carolina and Virginia.

The total production of refined primary lead in 1909 from domestic ore was 334,188 tons of 2000 pounds, of which Arkan-

sas produced 14 tons and Texas 42 tons. Missouri produced 142,650 tons and Oklahoma 2268 tons.

The production of primary zinc spelter from domestic ores amounted to 230,225 tons of 2000 pounds each, of which Arkansas produced 135 tons, Kentucky 22, Tennessee 695 and Virginia 58 tons. More than half the total was produced in Missouri, the output being 140,676 tons, and Oklahoma produced 3008 tons.

Salt, Gravel and Limestone.

The Central Salt & Mineral Co. of Friendship, La., announces that it will develop a large portion of a 360-acre tract of salt and mineral land, and will install salt-manufacturing and rock-crushing equipment to facilitate its operations. It has purchased brick, lumber, boilers, etc., together with engine and dynamos for light and power purposes, but has not yet purchased other necessary equipment. It also contemplates erecting a limekiln some time during 1911. The company's evaporating plant will have a capacity of 100,000 pounds of salt, and it expects to produce from its quarry from one to three cars of gravel and crushed rock daily and the same quantity of limestone for agricultural purposes. Its officers are James L. Dorman, Friendship, president and manager; G. B. Brooks, Crowley, La., vice-president; L. H. Clark, Friendship, secretary, and B. S. Dorman, Arcadia, La., treasurer.

Deal for Alabama Lands.

Announcement was made a few days ago that Frank Nelson, Jr., president of the Empire Coal Co. of Birmingham, and associates had purchased about 8000 acres of coal lands located in Jefferson and Walker counties, Alabama, owned by the Bryan estate. The property contains the Burnwell, West Pratt and Somerset mines, which are producing about 800 tons of coal per day. It is understood that the deal involved an expenditure of about \$500,000, and that the purchasers will expend about \$1,000,000 for development purposes, but no authentic announcement regarding the facilities to be installed has been announced.

Sells Output Two Years Ahead.

The Corona Coal & Iron Co., Birmingham, which is developing coal properties in Walker County, is reported to have sold its coal production for a period of two years ahead. It is estimated that the output of this company's mines during the present year will reach 750,000 tons, but it is said to be the intention of the company to operate its mines not only on full time during the coming year, but to increase its facilities for an output of 1,000,000 tons or more. L. B. Musgrove of Birmingham is the general manager of the company.

Ready to Begin Operations.

The Oak Leaf Coal Co. of Cordova, Ala., announces that it has about completed two miles of railroad, and will soon begin the shipment of coal. It will begin operations by developing six openings, and will produce about 400 tons of coal per day. The lands to be developed are said to contain a superior grade of steam and domestic coal. Officers of the company are Fry Chapman, president; Dr. A. L. Harlan, vice-president; R. C. Bush, second vice-president; J. S. Shannon, general manager, and Dr. J. I. Ellison, secretary and treasurer.

The Chamber of Commerce of Greensboro, N. C., is circulating an attractive booklet telling of the opportunities in that city and its vicinity for investors and homeseekers.

MECHANICAL

Flaming Arc Lamps in Steel Plant.

One of the problems confronting the managers of large steel and iron mills, foundries and machine shops is an efficient method of lighting.

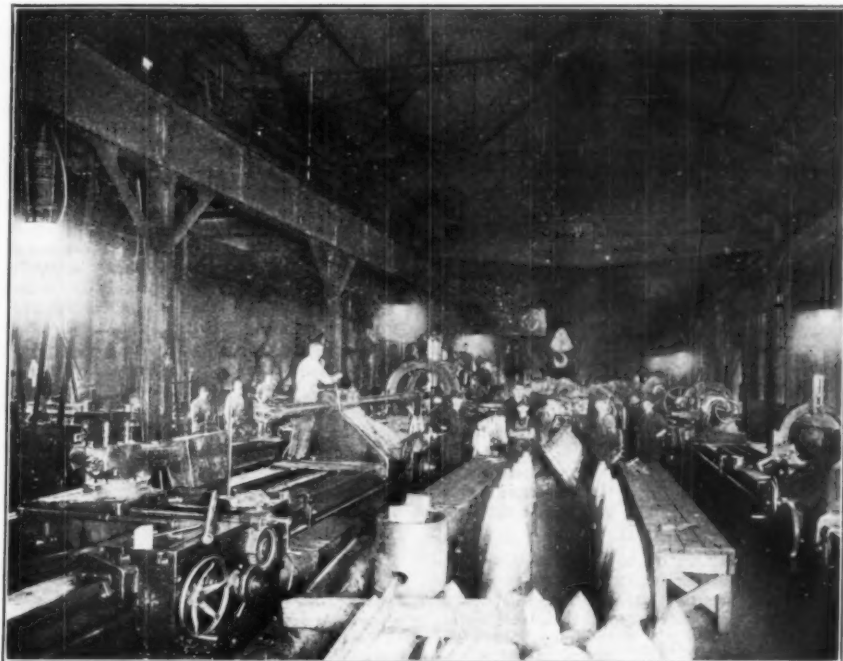
Prior to the perfection of the flaming arc lamp the best form of illuminant was the carbon arc. This lamp is still used to some extent, but the development of the

tive. The guns and projectiles made for the Government are built under very rigid specifications, and each shell and gun undergoes very close inspection during the process of construction. It is apparent that without good light much of the work would fail to pass the inspection and thus be rejected.

This shop was formerly lighted by carbon arcs, but these proved unsatisfactory, and incandescent lamps were added. These

flaming arcs hung above the cranes will satisfactorily light a foundry 50x100 feet.

As to the economy of such an installation, the flaming arc stands out prominently as the cheapest illuminant, when we consider that a flaming arc lamp gives 3000 candle-power at 550 watts, the operating cost is low, and so few units are required that the installation and maintenance cost is very small.



FLAMING ARC LAMPS IN STEEL PLANT.

flaming arc has brought about an important advance in lighting large areas, on account of certain characteristics which it possesses.

The flaming arc owes its popularity for this class of service to its great brilliancy, its penetrating power, its low operating expense and the pleasing effect of this light on the eyes.

In foundries, steel mills and machine shops, where the ceilings are high, lamps of great penetrating power must be used, because at the present time traveling cranes are used in almost every mill of any size, and in most cases it becomes necessary to hang the lamps above these cranes.

The large machine shops and foundries are generally built with two or three bays, a popular arrangement being one central bay, in which the heavy work is handled, and one or more side bays, usually built with galleries, in which the lighter and detail work is carried on. Often these side bays also have traveling cranes, and in that case the lamps are hung around the sides of the bay. The upper gallery and main bay, however, are generally illuminated by hanging flaming arc lamps above the cranes. Before the introduction of the flaming arc lamp no solution could be found for successfully lighting these high-ceilinged interiors where dust, smoke and vapor were always present, but in the flaming arc we find a lamp suitable for such service.

It used to be the common practice to hang up almost any kind of a lamp in a haphazard way to light a mill, but those days of inefficient lighting are past, and today the mill superintendent recognizes the fact that a well-lighted shop means more and better work and contented workmen.

For some time the Crucible Steel Co. of America, at Harrison, N. J., had difficulty in finding a satisfactory means of illuminating its gun and projectile shop. In this shop, which works day and night, turning out guns and projectiles for the United States Government, good light is impera-

individual incandescent lamps were hung near the various lathes, planers and other machines, and it was thought that this would solve their lighting problem. This combination failed, however, for the men on the night shift were continually having trouble with their eyes. As a last resort flaming arcs were tried, and after a thorough test seven Western Electric "Hawthorn" flaming arcs were installed in the main gun shop and three in the adjoining shop. These lamps are manufactured by the Western Electric Co. of Hawthorne, Chicago. These lamps were run two in series on a 220-volt circuit, and although the voltage is very unsteady, due to the fact that two or three 40 or 50-horse-power induction motors are often started or reversed simultaneously, the lamps are operating very satisfactorily.

It is interesting to note the increased production resulting from the installation of these lamps. After the flaming arc lamps had been installed for some time it was noted that the increase in the amount of work turned out by the night shift was a little over 10 per cent. In order to determine whether or not this was wholly due to the introduction of the flaming arcs, the lamps were taken out for a time and the night work carried on with the old lighting system. It was then found that the amount of work dropped off over 10 per cent., and that when the work was again carried on under the flaming arc lamps the men were able to produce 10 per cent. more work.

This increase in production is due not only to the amount of light, but to the quality. The golden yellow rays of the flaming arc lamp are stimulating in character and very easy on the eyes, and since these lamps have been installed night men have found it possible to turn out a greater amount of work with less effort than was possible with the old carbon lamps.

The lighting of foundries has heretofore been a difficult problem because of structural conditions, overhead cranes and the presence of smoke and dust. One or two

Gasoline Power Vacuum Cleaner.

To meet the growing demand for a power-driven stationary vacuum cleaning machine of small capacity, which can be installed in residences, stores, apartments and other places where electricity is not available, the Keller Manufacturing Co. of Philadelphia has introduced a modification of its well-known Duplex type of cleaner arranged with an extended shaft, outboard bearing and pulley.

This machine can be operated by belt from line shaft, or from a separate electric motor, which may be used for operating the vacuum cleaner when cleaning is to be done, or a variety of household devices at other times, or it may be driven by means of a gas or gasoline engine or water-power.

An accompanying view illustrates the



GASOLINE POWER VACUUM CLEANER.

complete outfit as furnished. This consists of a small water-cooled gasoline engine mounted on suitable board provided with lifting handles, a battery, spark coil, oil can, can of grease; also a gallon can of lubricating oil, crank for starting engine and two wrenches for adjusting the parts of the engine; 12 feet of two-inch belt, and the Duplex machine with pulley. A complete equipment of tools, consisting of hose, renovator handle and an unusually large and convenient assortment of renovators, brushes, special nozzles, is also included, but this is not shown.

The engine is of one horse-power, and is larger than necessary to drive the machine, but engines smaller than one horse-power have been found to be unreliable and too trifling for practical purposes.

It will be noticed that the engine is also available for driving other devices when the vacuum cleaner is not in use, as the belt may be thrown off the machine and onto the pulley of any other apparatus.

The Duplex machine consists of a substantial bell-shaped cast-iron base, above which is mounted the pump chamber, within which are two Santo pump units, one above and the other below the driving shaft, on which is mounted a heavy fly-wheel and the double set of ball-bearing eccentric cranks which drive the pumps.

The vacuum-producing part of this machine is identical with the well-known electrically-driven type of Santo Duplex, the only difference between the two types being that in the present machine the motor has been omitted and the shaft and flywheel substituted.

The operating parts are readily accessible by lifting the hooks, which allow the case to split and open around the shaft on the pulley side, permitting the case to be lifted off and the operating parts fully exposed for examination or lubrication.

The dust chamber is immediately above, and is secured to the operating part by means of three thumb-screws, which can be seen in the illustration. By slacking these thumb-screws and dropping the swivel bolts, the case, cover and dust bags can be taken away as a whole, if it is desired to examine the upper pump.

The lid is secured to the dust chamber by means of two thumb-screws and swivel bolts, and the attachment between the machine and house piping is made by means of a five-foot length of 1½-inch suction hose, which is arranged for screwing onto the end of the fixed house piping and into the hole in the center of the lid; this hose is furnished as part of the machine.

To set the machine up it is only necessary to connect the five-foot rubber hose with the house piping, secure the base of the machine to the floor, for which pur-

pose screw holes are provided; set the engine in position and secure it to the floor with lag screws.

This cleaner is of ample capacity for any ordinary house or building where the total length of fixed piping and hose in use at any one time does not exceed from 75 to 80 feet.

The Keller Manufacturing Co. is prepared to furnish machines crated f. o. b. destination, or to deliver and install the same, together with piping, and turn the plant over complete.

Construction Department

TO OUR READERS!

In order to follow up properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and when this is necessary the statements are made as rumored or reported, and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be shown on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the postoffice will be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur.

WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular.

"In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned."

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$25 per year. On all advertising contracts in the Manufacturers Record for three months or longer a subscription for the contract period to the Daily Bulletin is included.

BRIDGES, CULVERTS, VIADUCTS

Ark., Piggott.—Clay county will construct bridge across Big creek; steel span 50 feet long with concrete piers; bids open January 5. Address County Clerk.

Ga., Ocella.—Irwin county will construct steel bridge across Alphaha river on Irwinville and Tifton public road; structure will consist of four 100-foot spans on concrete abutments and steel cylinder piers; bids will be received until February 6; H. T. Fletcher, chairman Commissioners of Roads and Revenue. (See "Machinery Wanted.")

Mo., Kansas City.—City will construct concrete bridge across Blue River at 15th St.; Board of Public Works will soon invite bids; Metropolitan Railway will share cost.

Okla., Chickasha.—Chicago, Rock Island & Pacific Railway, J. B. Berry, chief engineer, Chicago, Ill., is completing arrangements for construction of proposed viaduct, to cost about \$90,000.

Okla., Guthrie.—G. W. Etter, superintendent of Oklahoma division of Gulf, Colorado & Santa Fe Railway; John W. Shartel for Guthrie Street Railway Co., and Mayor A. O. Farquharson for city of Guthrie, have signed contracts for construction of viaduct 40 feet wide and 500 feet long over tracks of Gulf, Colorado & Santa Fe Railway and Fort Smith & Western Railroad and over Cottonwood River; other improvements are included calling for expenditure of about \$500,000.

S. C., Greenville.—Greenville & Knoxville

Railroad, R. G. Chestnut, superintendent, has engaged James E. Pray as engineer in charge of construction of railroad bridges. (Recently noted.)

Tenn., Knoxville.—City has not definitely prepared plans for construction of bridge across Southern Railway tracks on Gay St. recently noted; J. E. Thompson, city engineer.

Tenn., Nashville.—Nashville-Gallatin Interurban Railway, H. H. Mayberry, president, Franklin, Tenn., will construct four 100-foot steel bridges with rock piers and other smaller steel bridges in connection with 30 miles of railway from Nashville to Gallatin, Tenn.

Tex., Cuero.—San Antonio & Aransas Pass Railway, J. S. Peter, general manager, San Antonio, Tex., will construct, it is reported, steel bridge across Guadalupe River, to cost \$236,000.

Tex., Galveston.—Galveston County Commissioners' Court has taken final action toward further improving roadway portion of Galveston causeway; additional strength is to be secured by doubling number of rods in roadway and by strengthening rods; estimated cost, \$75,000, of which county will pay one-fourth, railroads and interurban railway sharing remainder of expenditure; A. M. Blodgett & Co. of Galveston are contractors; County Judge G. E. Mann is chairman of causeway committee.

CANNING AND PACKING PLANTS

Va., Roanoke.—Blue Ridge Packing Co. incorporated with \$25,000 capital stock; O. H. Meador, president; C. B. Fretwell, vice-president; J. Harry Holcombe, secretary-treasurer.

CLAYWORKING PLANTS

Ga., Rome.—Sewer Pipe.—Standard Sewer Pipe Co. will expend \$30,000 to enlarge plant.

Mo., Waverly.—Bricks.—Waverly Brick & Coal Co. incorporated with \$300,000 capital stock by C. C. Christie, William Huttig and others.

N. C., Southmont.—P. O. Linwood.—A. L. Gorley, R. F. D. No. 2, Box 78, contemplates organization of company to establish plant to manufacture bricks, tile, etc.

S. C., Sumter.—Bricks.—I. A. Ryttenberg will rebuild Sumter Brick Works reported burned; loss \$25,000; daily capacity 50,000 common brick; plans not definitely arranged.

COAL MINES AND COKE OVENS

Ala., Birmingham.—Frank Nelson, Jr., president of Empire Coal Co., and associates purchased Bryan estate coal lands of about 800 acres in Jefferson and Walker counties; will develop; now have two openings with daily output of 800 tons coal.

Ala., Corona.—Corona Coal & Iron Co., L. B. Musgrove, general manager, Birmingham, Ala., is reported as contemplating improvements and developments to increase capacity of coal mines 250,000 tons per annum.

Ky., Artemus.—Ada Coal Co. incorporated with \$5000 capital stock by A. G. Blowers, J. B. Jones and J. E. Saunders.

Ky., Chesley, R. F. D. from Nortonville.—Oak Hill Manufacturing Co. incorporated by E. W. Powers, E. O. Moore and C. C. Herriot to develop coal mines.

Ky., Whitesburg.—Rankin Coal Co. (organized by John C. Mayo, Paintsville, Ky., and others) purchased 7000 acres of coking coal lands on Kentucky River and tributaries above Whitesburg.

Kentucky.—Blue Ribbon Coal Co. incorporated with \$100,000 capital stock by William DeL. Walbridge, 1 Broadway, New York; Robert R. Mackay, Edwin O. Wagner, Henry P. Walbridge and Francis M. Leach, all of New York.

Tex., Fort Worth.—Bedford Investment Co. will, it is reported, develop coal mines.

W. Va., Grafton.—Wilsonburg Fuel Co. incorporated with \$25,000 capital stock by D. E. Brown, A. J. Glenn, L. B. Stevens, A. G. Bartlett, all of Clarksburg, W. Va., and others.

West Virginia.—Glen Brook Coal Co. incorporated with \$25,000 capital stock by L. A. Hickley, G. W. Harkins, Jr., A. M. Sproule, all of Philadelphia, Pa., and others.

W. Va., Gassaway.—Elk Coal & Gas Co. incorporated with \$5000 capital stock by H. H. Dean of Sutton, W. Va.; Davis Evans of

Frametown, W. Va.; Leslie Frame of Duck, W. Va.; Benton Molohan of Servia, W. Va., and others.

W. Va., Ohio County.—W. C. Stewart, Moundsville, W. Va., purchased between 6000 and 8000 acres of coal land in Ohio county for \$35,000 to \$40,000.

W. Va., Harold.—Phillip Jenkins Sons Co. incorporated with \$50,000 capital stock by Phillip Jenkins and William Jenkins of Frostburg, Md.; Jonathan Jenkins, James Jenkins and Mary A. Jenkins of Van Lear, Ky.

CONCRETE AND CEMENT PLANTS

Ark., Little Rock.—J. A. Snyder of Ford Auto Co. proposes establishment of plant to manufacture cement tile, blocks and brick.

Fla., Jacksonville.—Southern Contracting & Concrete Co., H. A. Rau, proprietor, 16th and Laura Sts., will rebuild burned plant recently noted; 30x100 feet, with L 30x40 feet; concrete blocks; metal roof; construction by company; install concrete block machinery; daily capacity, 1000 concrete blocks.

Miss., Sledge.—Sledge Cement Tile Co. incorporated with \$5000 capital stock by E. W. Taylor, C. H. McGee, J. A. Hanks and others.

COTTON COMPRESSES AND GINS

Ala., Castleberry.—P. M. Skinner will rebuild cotton gin recently reported burned; sheet-iron construction; install machinery.

Ark., Paragould.—Farmers' Union will rebuild cotton gin and warehouse reported burned; loss \$10,000.

Okla., Platter.—E. T. Judd, Potshoro, Tex., will rebuild cotton gin recently reported burned; mill construction; cost \$1500; open bids May 1 for installation of machinery. (See "Machinery Wanted.")

Tex., Evelyn.—Evelyn Gin Co. incorporated with \$8000 capital stock by J. B. Oatman, W. E. Lamar, C. C. Ramsey and C. M. Dugger.

Tex., Goliad.—B. W. Martin will establish cotton gin; machinery purchased.

Tex., Parks Prairie.—Parks Prairie Mill & Gin Co. incorporated with \$5000 capital stock by Tom Brown, T. R. Hays, Ed Dodson and others.

COTTONSEED-OIL MILLS

Tex., Galveston.—Texas Export & Import Co., Carl Eichenberg, general manager, contemplates erection of plant for sacking loose cottonseed cake and for grinding cake and bolting meal; will also manufacture mixed feed; capacity per 24 hours, 400 long tons of seed and meal.

DRAINAGE AND IRRIGATION

Ark., Arkansas City.—Joseph DeMarchi, president Desha County Levee District; W. W. Boles, Dr. Vernon McCammon, County Judge Charles H. Halley, all of Arkansas City, and others are interested in plan to drain about 500 square miles, including parts of Desha, Lincoln and Chicot counties; each county is to act independently of the other by forming separate drainage organization; Cypress Creek is to be used as trunk drain with view to later diverting, under supervision of Mississippi River Commission, this drain into Boggy Bayou. According to engineer's estimate, 280,000 acres will be benefited at cost for main trunk drainage of about \$400,000; lateral drains will be constructed at points to be decided later.

Ark., Jonesboro.—Drainage District No. 6 of Craighead county will construct drainage canal 35,900 feet long, 18 feet wide at bottom and 24 feet wide at top and of average depth of 7 feet; estimated amount of earth to be removed, 183,000 cubic yards; J. H. Burke, engineer of district, will award contract January 16. (See "Machinery Wanted.")

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Ark., Paragould.—Commissioners of Lawrence and Greene County Drainage District have received reports from viewers and engineers in regard to construction of drainage ditch No. 1; main canal will be about 32 miles long, extending about 16 miles in Greene county and about same distance in Lawrence county, and will drain lower Cache River; about 30 miles of laterals in each county; total number of acres to be drained about 100,000; estimated cost of main canal, \$285,000; C. E. Waddell of Asheville,

N. C., and J. D. Mitchell are engineers. (Previously mentioned.)

Ark., Texarkana.—Red River Improvement Association has been organized for drainage of 170,000 acres of land in Red and Sulphur river bottoms in Miller county, Ark., and Bowie county, Texas; W. A. Arthur is first vice-president, M. D. Tilson second vice-president, G. A. Hays secretary and George J. Gray assistant secretary. (Recently mentioned.)

La., New Orleans.—Eddick Reclamation Co. incorporated with \$50,000 capital stock by John A. Kruse, Charles Carroll, Joseph W. Carroll and Sam Henderson, Jr.

N. C., Wilmington.—Commissioners of Lyon Swamp Drainage District, B. F. Keith, chairman, awarded contract to Brett Engineering & Contracting Co., Wilson, N. C., at \$36,461.45 for construction of canals and levees; work will consist of excavating canal about 13 miles, requiring 343,859 cubic yards of excavation, digging numerous lateral ditches and constructing dam on Cape Fear River, near Kelly's Cove, 35,937 cubic yards fillage.

Okla., Oklahoma City.—Drainage District No. 1 awarded contract to Sprinkle Construction Co., Fort Wayne, Ind., at \$90,000 for dredging channel of Deep Fork River in Oklahoma county to prevent overflow of bottom farm lands; operations will extend from point two miles west of Arcadia to boundary line between Oklahoma and Lincoln counties, distance of 15 miles; channel 15 feet deep and from 25 to 30 feet wide will be constructed; when channel in Oklahoma county has been completed property owners along river in Lincoln county propose to continue work, deepening and widening about 40 miles of river. (Previously mentioned.)

Tex., Raymondville.—H. P. Hilliard, president Central National Bank of St. Louis, Mo., purchased Los Mestenos tract of 61,000 acres; will irrigate and divide into small farms.

ELECTRIC LIGHT AND POWER

Ala., Tallahassee.—Montgomery Light & Water Power Co., E. A. White, general manager, Montgomery, Ala., is having plans prepared for improvements to electric plant which will double capacity; will add two turbines, each of 3000 kilowatts capacity, with accompanying fixtures and wiring, and also new power cables to handle increased current; estimated cost \$250,000.

Fla., Jacksonville.—Jacksonville Electric Co. will, it is reported, erect power-house on Riverside Ave.; Geo. J. Baldwin of Savannah, Ga., is president.

Ga., Ellerton.—Broad River Power Co. (previously reported incorporated) has water-power properties on North and South Broad rivers for future development; engineers estimate 10,000 horse-power available; not planning construction at present; capital stock is \$100,000; president, E. B. Tate; vice-president, I. G. Swift; secretary, A. J. Stovall.

Ga., Fairburn.—City will vote January 11 on issuance of \$10,000 electric-light bonds. Address The Mayor.

Ga., Fort Scriven.—Bids will be received until January 20 for construction of electric-light system. Address Constructing Quartermaster. (See "Machinery Wanted.")

Ky., Frankfort.—City granted franchise to E. M. Wallace, manager Capitol Lumber Co., to construct electric light system. (See Ky., Midway.)

Ky., Midway.—City contemplates granting franchise to E. M. Wallace, manager Capitol Lumber Co., Frankfort, Ky., to furnish city with electric light; system is to be extended from Frankfort, Ky., distance of 14 miles. (See Ky., Frankfort.)

Ky., Richmond.—Richmond Electric & Power Co. increased capital stock to \$80,000.

Mo., Lees Summit.—Light, Power, Ice & Storage Co. incorporated with \$20,000 capital stock by Charles N. Hanks, L. G. Morris, John H. Cook and others.

Mo., St. Louis.—Ozark Power & Water Co. incorporated with \$5000 capital stock by R. W. Morrison, Chester E. Burg and Frank Nottbusch.

Mo., Moberly.—City contemplates construction of electric-light plant; L. G. Knapp & Co., Kansas City, Mo., are engineers; Rolla Rothwell, Mayor.

Mo., Plattsburg.—City is having preliminary plans prepared by Rollins & Westover.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Beale Bldg., Kansas City, Mo., for electric-light plant. (See "Water-works.")

N. C., Hickory.—The Water-Power Electric Co. has engaged Connell & Connell, 90 West St., New York, as chief engineers for construction of water-power electrical plant; Louis R. Abel, 258 Broadway, New York, will be resident engineer; development of 900 horsepower planned. (Previously mentioned.)

N. C., John Station.—John T. John Company incorporated with \$125,000 capital stock by John T. John, W. A. McKoy, F. A. Kendall and R. F. Stewart.

N. C., Plymouth.—Plymouth Light & Ice Co. incorporated with \$25,000 capital stock by A. L. Owens, L. C. Owens and Clarence Latham.

N. C., Warrenton.—Warrenton Electric Light Co. incorporated with \$20,000 capital stock by W. L. Rogers, J. W. White, H. J. Bradly, Frank Seris and R. J. Jones.

Okl., Oklahoma City.—Oklahoma Street Railway Co., A. J. Bemis, general manager, will erect addition to Belle Isle power plant, increasing capacity from 2500 to 5000 horsepower; will also enlarge substation at Olive Ave. and 2d St. (See "Railway Shops, Terminals, Roundhouses, Sheds, etc.")

Okl., Stillwell.—City will expend \$45,000 to construct electric light plant and water-works; will erect 50x58-foot power-house and 24x24-foot pump-house of brick; contract recently noted awarded to Southwestern Engineering Co., Oklahoma City, Okla. (See "Water-Works.")

Va., Martinsville.—City voted issuance of \$35,000 of bonds for improvements to electric-light plant and water-works. Address The Mayor.

Va., Smithfield.—City will vote February 21 on issuance of \$55,000 of bonds for construction of electric-light and sewerage systems. Address The Mayor.

W. Va., Bluefield.—Norfolk & Western Railway, C. S. Churchill, chief engineer, Roanoke, Va., will enlarge power-house and install two additional boilers.

W. Va., Matoaka.—Matoaka Power Co. incorporated with \$25,000 capital stock by William DeL. Walbridge, 1 Broadway, New York; Robert R. Mackay, Henry P. Walbridge, also of New York; James C. Stras of Matoaka and John H. Parrott of Roanoke, Va.

FERTILIZER FACTORIES

Ga., Union Point.—Greene County Fertilizer Co. incorporated with \$15,000 capital stock by R. P. Bryan, H. Lamb and S. H. Shiley.

Va., Tenn., Bristol.—Bristol Board of Trade, F. M. Rannels, secretary, is interested in establishment of fertilizer factory. (See "Machinery Wanted.")

FLOUR, FEED AND MEAL MILLS

Ark., Paragould.—C. B. Atterbury of Hillsbury, Ill., proposes establishment of flour mill.

Fla., Daytona.—W. V. Carter will establish grist mill, etc. (See "Miscellaneous Factories.")

Ga., Raymond.—Raymond Grist Mill incorporated by Emmett J. Bailey, John G. Witcher, John E. Gilbert and others.

Mo., Kansas City.—American Stock Food Co. will erect plant in Blue Valley; cement construction; 135x150 feet; cost of building, \$50,000; cost of machinery, \$100,000.

Tex., Galveston.—Texas Export & Import Co. will manufacture mixed feed. (See "Cottonseed Oil Mills.")

Tex., Maud.—Joe White has not determined upon plans for erection of flour mill recently noted; daily capacity, 40 bales of flour.

Va., Hartsville.—Hartsville Roller Mills will establish plant to cost \$15,000; machinery order placed; daily capacity, 75 barrels roll flour and 300 bushels corn meal; begin operation February 1.

FOUNDRY AND MACHINE PLANTS

Ky., Louisville.—Iron—Balke & Co. Iron Works increased capital stock to \$32,000.

Md., Hagerstown.—Heating Furnaces.—Hagerstown Combination Heater Co. incorporated with \$30,000 capital stock by G. Frank Lidy, Clinton R. Grove, Jesse O. Snyder, Charles S. Lane, Jr., and Dr. Richard G. Stevenson.

Mo., Joplin.—Stoves.—Queen Bee Stove Co. incorporated with \$50,000 capital stock by J. E. Crosbie, James E. Walde, James E. Ward, O. D. Hunt and others to establish stove factory. Mr. Hunt will be general manager.

Okl., Enid.—Gasoline Engines.—T. R. Littleton & Son, Fredericktown, Mo., will, it is reported, establish plant for manufacturing gasoline engines; cost about \$10,000.

Tenn., Cleveland.—Machinery.—Cleveland Machine Works will erect addition to plant, install new machinery and stock of steam mill supplies; also manufacture wood sawing machinery. (See "Machinery Wanted.")

Tenn., Knoxville.—Iron.—Knox City Iron Works incorporated with \$25,000 capital stock by James T. Moore, J. G. Ambrister, F. E. Keener, B. F. Smith and others; has established plant.

Tex., Weatherford.—Foundry, etc.—G. M. Bowle, Edwin F. McCall and William White are promoting organization of company with \$12,500 capital stock to establish foundry and machine plant.

GAS AND OIL DEVELOPMENTS

La., Rayville.—Consolidated Oil & Pipe Line Co. organized with \$5,000,000 capital stock; W. M. Kline, president, Mangham, La.; John M. Ferguson, vice-president; E. B. Toombs, secretary-treasurer; both of Rayville. Mr. Ferguson telegraphs Manufacturers Record that details are as yet too indefinite for publication.

Okl., Oklahoma City.—Olmer's Well Co. incorporated with \$50,000 capital stock by I. N. Terrill, Charles H. White and others.

Okl., Ponca City.—Southwestern Gas Co. incorporated with \$15,000 capital stock by F. W. McFarland, J. J. McGlaskey, both of Pittsburg, Pa., and B. C. Weick of Ponca City.

Okl., Tulsa.—Tuscaloosa Oil & Gas Co. incorporated with \$600,000 capital stock by Theodore Cox, Otto Aulbach and V. V. Lane.

Okl., Tulsa.—Ingram Oil & Gas Co. incorporated with \$50,000 capital stock by B. D. Ingram of Rapid City, S. D., R. H. Barnett and J. C. Jacobs of Tulsa.

Tex., Wichita Falls.—City granted franchise to J. W. Culbertson to supply city with natural gas, piping same from Clay county gas field.

W. Va., Huntington.—Mud River Oil Co. incorporated with \$500,000 capital stock by C. H. Freeman, F. C. Leftwich, C. E. Haworth and others.

ICE AND COLD-STORAGE PLANTS

Ala., Birmingham.—Consumers' Ice Co. is being organized with \$100,000 capital stock by G. G. Maass, M. E. Chaddock and others; will erect building and equip for ice plant; daily capacity, 200 tons of ice.

Ala., Woodlawn, P. O. Birmingham.—Woodlawn Ice Co. incorporated with \$40,000 capital stock; W. J. Worthington, president and treasurer; R. S. Mauchline, secretary.

Fla., Jacksonville.—Company organized with \$100,000 capital stock; A. M. Dixon, president and treasurer; J. T. L. Dixon, vice-president; S. Y. Dixon, secretary; will establish plant with daily capacity of 50 tons of ice.

Mo., Lees Summit.—Light, Power, Ice & Storage Co. incorporated with \$20,000 capital stock by Charles N. Hanks, L. G. Morris, John H. Cook and others.

N. C., Plymouth.—Plymouth Ice & Light Co. incorporated with \$25,000 capital stock by A. L. Owens, L. C. Owens and Clarence Latham.

Okl., Collinsville.—People's Ice & Light Co., recently reported incorporated with \$50,000 capital stock, will operate ice plant; building erected; equipment supplied; J. H. Middleton, president; H. D. Barndollar, vice-president; C. T. McCarty, secretary; C. L. Goodale, treasurer.

Okl., Muskogee.—Swift & Co., Chicago, Ill., will construct cold-storage plant; construction begun.

Tenn., Etowah.—T. F. Peck and associates have not completed plans for ice and electric plant and water-works recently noted; cost \$40,000 to \$50,000; capacity sufficient to supply population of 5000; will install dynamos, water-wheels, pumps, etc. See "Machinery Wanted.")

Tex., Cuero.—Northern Produce Co. will erect additional store, install 30-ton ice plant and increase cold storage capacity from 10 to 20 tons.

Tex., Fort Worth.—Crystal Ice Co. incorporated with \$40,000 capital stock by E. P. Maddox, H. L. Calhoun and Geo. A. Calhoun.

IRON AND STEEL PLANTS

Ga., Rome.—Iron Furnace, etc.—Peters Mining & Smelting Co. incorporated with \$3,000,000 capital stock by H. S. Shackleton of Rome and R. G. Peters of Manistee, Mich.; will take over Peters' interests ex-

cepting Rome & Northern Railroad; properties include red and brown iron ore lands and Silver Creek iron furnace.

N. C., Winston-Salem.—Ore for Furnaces.—Carolina Ore Co., J. L. Ludlow, president, awarded contract to Ange-Caldwell Construction Co. of Winston-Salem to erect two buildings 200x30 feet and 30x60 feet, respectively; portions of both structures will be two stories high; steel frame construction; Carolina Ore Co. was incorporated with \$125,000 capital stock to establish plant to fuse pyrites cinder into material to mix with ores used in manufacturing pig-iron; capacity will be 30,000 to 40,000 tons annually. (Further facts lately mentioned.)

LAND DEVELOPMENTS

Ala., Summerdale.—Monmouth Development Co., recently reported incorporated with \$15,000 capital stock, will develop 120 acres of land for general farming, trucking, growing fruits, pecans, sugar-cane, etc.; amount to be expended, \$25,000; W. H. Sexton, president; E. R. Sturtevant, secretary-treasurer; J. Theodore Young, manager.

Ark., Hope.—Hahn Land & Development Co. incorporated with \$15,000 capital stock by E. J. Deupree, E. N. Newblock, C. Masters, all of Oklahoma City, Okla., and others; will develop and colonize 400,000 acres of land between Hope and Alexandria, La.

Ark., Walnut Ridge.—J. C. Robertson and A. D. Cornett, both of Princeton, Kans., purchased farm near Walnut Ridge; will clear of timber and establish rice plantation.

Fla., Florence Villa.—M. E. Gillett will plant 100,000 trees on 1000 acres of land and develop citrus fruit orchard.

Fla., St. Petersburg.—St. Petersburg Land Co., recently reported incorporated with \$20,000 capital stock, purchased 29 acres of land; will subdivide into 100 lots and develop residence section. C. E. Chambers is president.

Georgia.—Improved Pecan & Fig Orchard Co. incorporated with \$50,000 capital stock by Andrew L. Thompson, Wallace A. Lowell, Erik L. Krag and others, all of Chicago, Ill.; develop fruit and nut farms in Georgia.

Ky., Louisville.—McAllister & Co. have 129 acres of land adjoining city limits; will subdivide into villa sites, construct macadam roads, install water system and construct car line one-quarter mile long; 45 acres have been sold to Southern Baptist Theological Seminary for erection of college buildings. (Recently noted.)

Ky., Louisville.—Hollywood Land Co. incorporated with \$25,000 capital stock by C. F. Boggess, M. L. Thomas and John H. Chandler.

Maryland.—John J. Hurst, 263 Calvert Bldg., Baltimore, Md., purchased Biddison farm on Middle River, containing 228 acres, and will develop for residence section; lands surveyed and subdivided by Reding & Howard, 11 E. Lexington St., Baltimore, Md.; will erect two bungalows, etc.; cost of improvements, about \$10,000.

Md., Baltimore.—Fawn Street Realty Co. incorporated with \$30,000 capital stock by Henry Brunt, 1613 E. North Ave.; Edwin H. Bennett, 1301 Fleet St.; Wilbur T. France and others.

Md., Baltimore.—Sadler Estate Building Co. incorporated with \$30,000 capital stock by Geo. W. Sadler, Howard P. Sadler and Fernando Volkmar, all of Geo. T. Sadler & Sons, 14-16 E. Baltimore St.

Md., Baltimore.—Hill Top Park Co. incorporated with \$50,000 capital stock by Theophilus White of Webb & White, Maryland Telephone Bldg.; Charles A. Layfield and Wm. Pepper.

Mo., Stewartville.—Stewartville Development Co. incorporated with \$2500 capital stock by Charles Craver, A. H. Craver, J. C. McWilliams and others.

Mo., St. Louis.—Patterson Orchard Co. incorporated with \$75,000 capital stock by J. M. Patterson, Geo. B. Cummings and others.

N. C., Canton.—W. D. Hill and T. F. Fry of Investors' Realty Co., South Boston, Va., purchased 16 acres of land and will develop as residence section; subdivide, cut streets, construct granolithic walks, etc.

N. C., Vanceboro.—Bland Farming Co. incorporated with \$50,000 capital stock by J. Bland and others.

S. C., Charleston.—Moultrie Development Co. incorporated with \$15,000 capital stock; W. L. Douglas, president; J. S. Pinkusohn, vice-president; P. W. Sanders, secretary-treasurer.

Tenn., Knoxville.—Cumberland Orchard Co. incorporated with \$50,000 capital stock by C. W. Henderson, J. R. H. Hilton, F. C. Keep and others.

Tex., Hidalgo County.—H. P. Hillard, presi-

dent of Central National Bank of St. Louis, Mo., purchased 61,000 acres of land in Hidalgo county for \$671,000; will subdivide and colonize.

Tex., Lamarque.—S. H. Jackson of Houston, Tex., and associates purchased 3000 acres of land near Lamarque and will develop; subdivide, grade streets, etc.

Tex., Prairie View.—Prairie View Development Co., Houston, Tex., will develop town of Prairie View; T. W. Lewis of Houston, J. R. Farmer of Michigan and C. T. Seefeldt of Iowa are principal owners; Farmer & Lewis are engineers in charge of grading, cement construction, etc.; now locating canning and preserving plant and cotton-duck mill; will endeavor to locate other industries. (See "Machinery Wanted.")

Tex., San Antonio.—American Townsite Co. incorporated with \$250,000 capital stock by A. D. Powers, A. L. Matlock and Harry W. Hamilton.

W. Va., Chester.—C. A. Smith will develop peach orchard, planting 10,000 peach trees.

W. Va., Martinsburg.—Purslane Orchard & Stock Farm Co. incorporated with \$50,000 capital stock by Elizabeth O'Boyle of Martinsburg, W. H. Thomas of Bolivar, W. Va., and others.

W. Va., Martinsburg.—Tomahawk Orchard Co. incorporated with \$50,000 capital stock by H. L. Alexander, Benj. J. Thompson, Alex. Chohan and others.

W. Va., Morgantown.—Mapleton Orchard Co. incorporated with \$50,000 capital stock by Ed W. McNeill, E. T. Schultz, E. D. Tumlin and others.

W. Va., Parkersburg.—Rosemar Orchard Co., Citizens' Trust & Guaranty Co.'s building, organized with \$25,000 capital stock; F. P. Moats, president; W. H. Gerwig, vice-president; J. H. Knapp, secretary-treasurer; purchased 140 acres of land containing 400 bearing trees; also has 19-year lease on 1000 trees in old orchards in Williams district; will plant new trees, treat old ones and further develop.

LUMBER MANUFACTURING

Ala., Gadsden.—Coosa Lumber Co. increased capital stock from \$25,000 to \$100,000; purchased timber land in Etowah county for \$3200; capacity of sawmill at Riggles Bend will probably be increased.

Ark., Algon.—J. A. Stringer will rebuild saw mill reported burned at loss of \$5000.

Ark., Craig County.—Eastman & Gale, St. Louis, Mo., purchased, it is reported, 1000 acres of timber land for \$15,000.

Ark., Helena.—West Helena Veneering Co. organized with \$50,000 capital stock to establish veneer plant.

Ky., Tompkinsville.—S. H. Hull, Carthage, Tenn., purchased 2000 acres timber land in Cumberland county, Tennessee, for \$24,000; will probably manufacture; operations not to begin before fall. (Recently noted.)

La., West Monroe.—Riverside Lumber Co. will open bids January 15 for rebuilding plant recently noted burned; mill construction; cost \$20,000; cost of machinery, \$7000; daily capacity, 3500 feet pine lumber.

Miss., Lumberton.—Wells Lumber Co. will repair and enlarge plant.

Okl., Muskogee.—Muskogee Manufacturing Co., Henry Tupper, president; purchased site 140x200 feet on which to erect lumber plant; buildings to be brick and Carthage limestone; cost about \$12,000.

Okl., Weleetka.—Canadian Lumber Co. incorporated with \$10,000 capital stock by Earle M. Kennedy and Emma B. Kennedy of Weleetka, J. E. Kennedy and Hal W. Kennedy of Kansas City, Mo.

S. C., Charleston.—Carolina Timber Co., recently reported incorporated with \$50,000 capital stock by Rutledge Rivers and H. L. Erckmann, will change title to Sea Coast Timber Co.

Tex., Redwater.—K. & P. Lumber Co., Naples, Tex., purchased Berry tract on Sulphur River near Redwater, comprising several hundred acres, estimated to contain 30,000,000 feet of hardwood timber; purchase price, about \$75,000; will cut timber and forward to hardwood mill at Naples.

METAL-WORKING PLANTS

La., New Orleans.—Cornices, etc.—New Orleans Roofing & Metal Works, Scott and St. Louis Sts., will erect additional buildings and increase capacity of plant.

Tenn., Memphis.—Stovepiping.—Southern Blower & Manufacturing Co., 296 Memphis Trust Bldg., contemplates installing equipment to manufacture stovepiping and elbows. (See "Machinery Wanted.")

MINING

Ala., Wedowee—Iron, etc.—Great Southern Iron & Development Co. incorporated with \$1,000,000 authorized capital stock to develop iron and other mineral lands; president, James M. McBurnett of Wedowee; vice-president, James N. Sechrest of 820 White Bldg., Buffalo, N. Y.

Ark., Little Rock—Diamonds.—Arkansas Diamond Co., S. W. Reyburn, president, increased capital stock from \$1,000,000 to \$1,250,000.

Ga., Dahlonega—Gold.—Craig R. Arnold will erect (next summer) commercial mill, operating his electro-amalgamating gold-recovering patents.

Ga., Macon—Granite.—Macon Stone Supply Co. incorporated with \$600,000 capital stock by W. G. Solomon, W. D. Deldrich and R. S. Clemmons; will develop 20-acre granite quarry; daily output, 200 tons; machinery installed.

Ga., Rome—Iron.—Peters Mining & Smelting Co. incorporated to take over red and brown iron-ore lands, etc., of R. G. Peters of Manistee, Mich. (See "Iron and Steel Plants.")

Ia., Friendship—Salt, etc.—Central Salt & Mineral Co., recently reported incorporated (at Arcadia, Ia.) with \$150,000 capital stock, will develop 300 acres of salt and limestone property; daily capacity, 100,000 pounds of salt, one to three cars of gravel, crushed rock and limestone; machinery mainly purchased; James L. Dornon is president; contemplates erection of limekiln later.

Mo., Carthage—Lead and Zinc.—Pete Pinkerton will have charge of opening Porter Mine for development of lead and zinc deposits.

Mo., Oronogo—Lead and Zinc.—Blaine, Northcut & Lafferty subleased Judge mine; will reopen, overhaul, repair, clean out drifts and establish concentrating mill.

Mo., Joplin—Lead and Zinc.—S. V. D. Mining Co. incorporated with \$100,000 capital stock by Homer P. Sewell, Charles H. Voegelé, R. J. Dinning and others.

Okla., Davis—Runney Mining Co., recently reported incorporated with \$50,000 capital stock, will develop 37½ acres of mining property; has begun drilling opening 60 to 64 feet; G. R. Runney, president and treasurer; G. N. Runney, vice-president; H. C. Kessler, secretary.

Okla., Oklahoma City—Quarry.—Oklahoma Quarries & Construction Co. incorporated with \$100,000 capital stock by John M. Wheeler, Daniel B. Ridpath and E. J. Hoover.

Okla., Tulsa—Stone.—Lost City Stone Co. incorporated with \$10,000 capital stock by Joseph Ardizzone, J. J. Ossensbeck and John D. Dinger.

MISCELLANEOUS CONSTRUCTION

Fla., Jacksonville—Piers, etc.—Merchants & Miners' Transportation Co., J. C. Whitney, president, German and Light Sts., Baltimore, Md., is arranging for improvements to East Bay St. terminals; about triple capacity, and involve expenditure of \$100,000; plans include two warehouses, each 350x75 feet, as addition to present piers, giving company two complete docks, each 600 feet long and 75 feet wide; extensions will be constructed toward Bay St. from northern end of present piers and necessitate dredging of slip in same direction, contract for which has been awarded to Merrill-Stevens Company of Jacksonville; this will provide facilities for handling two ships at one time instead of one as at present; other improvements will include system of railroad tracks with capacity for 36 box cars; general office building 30x90 feet on Bay St. at head of piers, and overhead balcony or sidewalk for passengers commencing at office building with flight of stairs and extending over to and along entire length of piers to steamer berths. W. T. Hadlow Company of Jacksonville has contract to erect piers and office building.

Fla., Pensacola—Wharf.—City contemplates granting franchise to C. W. Lamar and associates to construct and maintain wharf at foot of Magnolia St.

Fla., St. Petersburg—Seawall.—Bayboro Investment Co. awarded contract to H. A. Farmer of St. Petersburg to construct proposed seawall; 2000 feet long, three feet thick at bottom and six feet high; one foot thick at top; wall will be reinforced by piling and by five strands of barbed wire; part of wall will be in water; pump has been ordered to keep water from forms in which cement will be placed; after completion of wall sand on bay side will be removed by dredge and thrown to rear of wall, where it will be leveled; at even tide water will have depth of five feet at edge of wall.

Ga., Augusta—Rip-rap Construction.—Government has specifications prepared and invites bids until January 26 for rip-rap work on Savannah River, between Hawks Gully and Center St., distance of 7500 feet; work will include removal of Charleston & Western Carolina Railroad trestle (with exception of rails and ties) from 12th St. to Hawks Gully, clearing of bank, excavation of trench about 10 feet wide at toe of revetment and filling of trench with rip-rap, consisting of blocks of stone, revetment of bank up 25-foot contour and grading and filling above pavement up crest of bank; rip-rap work will be two feet thick; estimated that 40,000 cubic yards of earth are to be excavated from trench and 50,000 tons of stone required for filling trench, 16,000 tons for subpavement on sloping wall and 48,000 tons for top pavement; cost will be about \$250,000, one-half of which will be paid by Government and one-half by city; Col. Dan C. Kingman, Colonel Engineers, Savannah, Ga. (See "Machinery Wanted.")

Ga., Savannah—Dredging.—Government awarded contract to P. Sanford Ross, Jersey City, N. J., for dredging 1,617,000 cubic yards of material from Savannah River at estimated cost of \$167,000; Mr. Ross sublet contract to Atlantic, Gulf & Pacific Co. of New York; work begun; Col. Dan C. Kingman, U. S. Engineer in charge. (Previously mentioned.)

Ia., New Orleans—Levee.—Martin Behrman, Mayor, and Orleans Levee Board arranged with New Orleans & Northeastern Railroad and Southern Pacific Co. to construct levee from General Nicholls to Montegut St.

MISCELLANEOUS ENTERPRISES

Ala., Clanton—Publishing.—Clanton Press incorporated with \$2000 capital stock by H. F. Chandler, E. M. Pinckard, W. T. Callen and others.

Ala., Robertsdale—Tobacco.—Galesburg Development Co. organized with W. H. Maley president, S. E. Bogzess secretary-treasurer, Harry O. Packard superintendent, capital stock, \$30,000; will develop 50 acres of land in tobacco, erect tobacco barns and place shade over 16 acres; contemplates putting in 16 acres of shade tobacco and 19 to 15 acres of sun tobacco; cost of improvements, \$20,000; main office, Galesburg, Ill. (Recently noted.)

Ala., Tuscaloosa—Garage.—Auto Exchange & Supply Co. will erect garage; one story; brick; pressed brick and plate glass front; semi-fireproof; mill construction roof.

Ark., Little Rock—Plumbing.—Ford Plumbing Co. incorporated with \$5000 capital stock by R. L. Ford, W. J. Dillon and others.

Fla., Pensacola—Naval Stores.—Jennings & Jones Company organized at New Orleans, La., with \$200,000 capital stock; T. A. Jennings, president; J. S. Jones, vice-president; D. B. Gordon, vice-president; F. L. Dusenberry, secretary-treasurer; will have as subsidiaries Jones-Dusenberry Marketing Co., with \$100,000 capital stock, and Naval Stores Warehouse & Storage Co., with \$20,000 capital stock; offices, 517 Magazine St., Pensacola.

Ga., Macon—Garage.—W. G. Lee has plans by C. R. Ellis (address, care of Mr. Lee) for garage; 52½x110 feet; fireproof construction; electric lighting; cost \$5000; will open bids about January 18.

Ga., Savannah—Laundry.—Red Cross Laundry incorporated by J. E. Peoples, Nathan Cooley and John L. Travis.

Ga., Savannah—Abattoir.—Samuel Friedman, proprietor of Savannah Stock Yards and Cold Storage Plant, plans establishment of abattoir; erect additional story for that purpose; also to establish sausage factory.

Ky., Louisville—Printery.—Ridsdale Printing Co. incorporated with \$6000 capital stock by M. J. Ridsdale, J. C. Burton and P. T. Ridsdale.

Ky., Loraine—Mineral Wells.—Taylor County Mineral Well Co. incorporated with \$10,000 capital stock by B. M. Taylor, Breck Courts and B. W. Green.

Ky., Louisville—Publishing.—Farmers' Home Journal increased capital stock from \$20,000 to \$30,000.

Ia., New Orleans—Publishing.—Times-Democrat Publishing Co. will erect \$8000 book addition to plant.

Ia., New Orleans—Printery and Advertising.—George Simms Advertising Co. incorporated with \$10,000 capital stock; George A. Simms, president; Edwin F. Worms, vice-president and treasurer; Charles N. Worms, secretary; will continue established printery on larger scale.

Md., Cumberland—Publishing.—John W. Avirett, proprietor Evening Times, will rebuild portion of plant recently reported burned; loss \$20,000.

Mo., Eldorado—Supplies.—Eldorado Supply Co. incorporated with \$10,000 capital stock by C. L. Fogarty, H. B. Davis and R. F. Towble.

Mo., Kansas City—Construction.—Walton Cement Mold & Construction Co. (not Western Cement Shingle Mold & Construction Co., as recently erroneously noted) incorporated with \$50,000 capital stock by E. M. Walton, John H. Jones and Ferdinand D. Dreisbach.

Mo., Kansas City—Iron and Steel.—Pioneer Iron & Steel Co. incorporated with \$10,000 capital stock by D. S. Rettig, L. C. Rettig and M. Andrews.

N. C., Asheville—Laundry.—F. M. Weaver will erect 60x70-foot addition to and remodel building occupied by Mountain City Laundry Co., expending \$5000; company will install additional machinery, practically doubling capacity of plant, and replace present steam-power with electricity.

N. C., Buffalo City—Loading Plant.—Dare Lumber Co. will rebuild loading plant, which includes trestle, traveling crane, etc., recently reported burned; 34x38 feet; wood construction; cost (including equipment) \$6000; construction by company's force.

N. C., Charlotte—Garage.—W. F. and W. C. Dowd will erect one two-story and one one-story building to be occupied by United Motor Charlotte Co. as garage; will also erect two-story business building.

N. C., Charlotte—Crematory.—City is considering rebuilding on large scale crematory reported burned; loss \$6000. Address The Mayor.

N. C., Hassell—Supplies.—Salisbury Supply Co. incorporated with \$50,000 capital stock by R. W. Salisbury, L. Salisbury and W. D. Jordan.

N. C., Raeford—Garage.—Standard Garage Co. incorporated with \$50,000 capital stock by J. W. Upchurch, T. B. Upchurch, E. B. McNeill and others.

N. C., Winston-Salem—Abattoir.—W. F. Snipes & Co. state recent report was error; abattoir was not burned; \$8000 stock barn was burned.

Okla., Alva—Grain.—Woods County Grain & Broom Corn Co. incorporated with \$10,000 capital stock by John Wiebner, F. H. Meyer, C. Klette and others.

Okla., Antlers—Printery.—Antlers Printing Co., recently reported incorporated, will conduct general printing and publishing plant; buildings erected; machinery and equipment purchased; William Westmoreland, president; George Stephenson, vice-president; Rex D. Jones, secretary-treasurer.

Okla., Bartlesville—Drilling.—American Drilling Co. incorporated with \$5000 capital stock by O. R. Land, L. A. Rowland and William G. Wilson.

Okla., Muskogee—Contracting.—Tupper-Bird Company incorporated with \$25,000 capital stock by Harry E. Tupper, Earl V. Bird and L. C. Smith.

Okla., Sayre—Printery.—Standard Printing Co. incorporated with \$10,000 capital stock by John C. Hendrix, J. L. Paschal and H. W. Hugo.

S. C., Columbia—Automobiles.—Gregory-Corder Motor Co. incorporated with \$20,000 capital stock by W. T. Gregory and A. J. Gregory, both of Lancaster, S. C.; John W. Corder, John M. Bates, both of Columbia, and others.

S. C., Florence—Laundry.—H. H. Hines contemplates establishment of laundry. (See "Machinery Wanted.")

S. C., Greenville—Electric Supplies.—Atlantic Electric Supply Co. incorporated with \$10,000 capital stock by D. A. Henning, H. L. Fuller and E. C. De Bruhl.

S. C., Spartanburg—Steam Laundry.—Steam Laundry & Milling Co. organized to establish steam laundry; C. J. Rice of Augusta, Ga., will be manager.

Tenn., Knoxville—Steam Laundry.—Knox County Industrial School will establish steam laundry; will erect two-story concrete building; 18x50 feet; machinery purchased.

Tex., Armstrong County—Live-Stock Ranch.—Goodnight American Buffalo Ranch Co. incorporated with \$300,000 capital stock by Charles Goodnight of Armstrong county, H. W. Taylor of Clarendon, Tex.; J. W. Martin of Claude, Tex.; W. T. Spears and H. A. Fleming, both of Dallas, Tex.; establish cattle ranch on 528 acres of land, starting with 100 buffaloes, 75 half-breed buffaloes, 100 cattle, 200 Persian sheep, etc.

Tex., Corpus Christi—Publishing.—Callor Publishing Co. increased capital stock from \$10,000 to \$20,000.

Tex., Mercedes—Oil Distributing Plant.—The Texas Co., Houston, Tex., is reported to erect tanks and warehouse for oil distributing plant.

Tex., Port O'Connor—Fish and Oysters.—Port O'Connor Fish & Oyster Co. incorporated with \$10,000 capital stock by P. R. Austin, C. W. Gibson and C. R. Gibson.

Tex., San Antonio—Amusement Park.—Company will be incorporated with \$90,000 capital stock by H. L. Breinig of Terre Haute, Ind.; Walton D. Hood, W. W. Wharton, James L. Glass, all of San Antonio, and others; leased Scheuermeyer's Garden and will establish Exposition Park; construct \$15,000 "dizzy dazer," German village, clubhouse, dancing pavilion, skating track 1000 feet long, summer theater to seat 500, land shell, electric tower 100 feet high, electric entrance, bowling alley, etc., initial cost \$50,000.

Tex., San Marcos—Publishing.—G. A. McNaughton will erect building to be occupied by Hays County Times as publishing plant; brick construction.

Tex., Texarkana—Laundry.—Gate City Laundry Co. increased capital stock from \$7000 to \$12,000.

W. Va., Wheeling—Automobiles.—Wheeling Taxi Co., 113½ Market St., incorporated with \$25,000 capital stock by Geo. E. Bayha, J. J. P. O'Brien, F. A. O'Brien and others.

MISCELLANEOUS FACTORIES

Ala., Birmingham—Cigars.—Seal-Carlisle Co. incorporated with \$6000 capital stock by Carl H. Seals, R. U. Falkner, D. J. Carlisle and others.

Ala., Montgomery—Gas Plant.—Montgomery Light & Water-Power Co., E. A. White, general manager, will double capacity of gas plant; renew retorts, etc.; contemplates construction of additional gas tanks; cost of improvements, about \$100,000.

Ark., Fort Smith—Peanuts.—Paul Williams, Paris, Tex., proposes establishment of peanut factory.

Ark., Fort Smith—Oil Refinery.—Arkansas Refining Co. incorporated with \$100,000 capital stock; Charles T. Madison, president, Muskogee, Okla.; D. J. Young, vice-president; R. R. Cravens, secretary-treasurer; both of Fort Smith; will erect oil refinery.

Ark., Osceola—Mattresses.—Company organized with \$10,000 capital stock; R. C. Rose, president; I. Miller, vice-president; L. A. Morris, secretary; E. E. Driver, treasurer; E. W. Williams, general manager, Cincinnati, O.; will establish mattress factory.

D. C., Washington—Olive Products.—Olive Products Co., N. Musher, manager, 702 5th St. N. W., will erect 27-foot by 111-foot 7-inch fireproof factory building; plans by Frank G. Pierson, 408 Washington Loan and Trust Bldg., Washington.

Fla., Daytona—Brushes, etc.—W. V. Carter will establish rice hulling and grist mill and factory to manufacture brushes and fiber from palmetto leaves.

Ga., Atlanta—Beverages.—Jit-a Cola Co., recently reported incorporated (at Asheville, N. C.) with \$25,000 capital stock, has purchased machinery and equipment for laboratory; will manufacture soft drinks; Edgar Everhart, president; J. M. Chiles, vice-president and treasurer; E. L. Ray, secretary; main office, Asheville, N. C.

Ga., Gainesville—Lime.—C. L. Deal Manufacturing Co., E. L. Deal, secretary, P. O. Box 27, recently reported incorporated, will manufacture lime; daily capacity, 500 pounds of cement lime; contemplates installing hydrating machinery.

Ky., Louisville—Cloaks and Suits.—Royal Cloak & Suit Co. incorporated with \$12,500 capital stock by Sim B. Lesler, L. G. Lewis and Jos. R. Lewis.

Ky., Louisville—Oil Burners.—Harris Oil Burner Co. incorporated with \$20,000 capital stock by Lee J. Harris, M. I. Greenston and Otto S. Cohen.

La., Adeline—Sugar.—Adeline Sugar Factory Co. will rebuild burned sugar factory; 12 rolls; fireproof construction; engineer and contractor is Honolulu Iron Works, Honolulu, H. I. (Previously noted under La., Franklin.)

La., New Orleans—Safes, etc.—International Safe & Lock Co. incorporated with \$50,000 capital stock; Walter B. Gillican, president; Bernard H. Menge, secretary-treasurer; Horace W. Woodruff, vice-president.

La., New Orleans—Cane Harvester.—George D. Luce is organizing company to establish plant to manufacture patented sugar-cane harvester with daily capacity for harvesting 10 acres of cane or a yield of 200 tons.

La., New Orleans—Turpentine.—Acme Turpentine Co. incorporated with \$10,000 capital stock; J. Benjamin Gillis, president; Anthony Vizard, vice-president; Leak P. Landis, secretary-treasurer.

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La., White Castle—Sugar Factory, etc.—Belle Grove Planting & Manufacturing Co. incorporated with \$300,000 capital stock; John Stone Ware, president; Mrs. Mary A. Ware, vice-president; Mrs. John Stone Ware, secretary-treasurer; acquires 3500 acres sugar land and sugar factory.

Md., Baltimore—Candy, etc.—Baltimore Candy & Tobacco Co. incorporated with \$40,000 capital stock by Morris A. Kartman, 241 S. Broadway; Nathan Rosenberg, Samuel A. Katz and others.

Md., Baltimore—Bakery.—City Baking Co., 500 Equitable Bldg., is having plans prepared by John Freund, Jr., 210 E. Lexington St., Baltimore, for addition to bakery at Gilmor and Saratoga Sts.; brick; three stories.

Miss., Gulfport—Brooms.—J. J. Riley of Birmingham, Ala., will establish broom factory; machinery purchased.

Miss., Natchez—Confectionery.—Leonard Voos Co. incorporated with \$10,000 capital stock by W. Voos, A. B. Westmoreland and others.

Mo., Kansas City—Brewery.—George Muehlebach Brewing Co., 18th and Main Sts., will erect two additional stories to plant; cost \$10,000; construction begun.

N. C., Charlotte—Bakery.—Young Steam Baking Co. incorporated with \$25,000 capital stock by R. E. Young, R. Allen Young and C. E. Keuster.

N. C., Siler City—Gloves, etc.—Rightsell Manufacturing Co., O. B. Rightsell, manager, recently noted to increase capacity, will erect 40x20-foot addition and install machinery; present daily capacity, 40 dozen gloves; will increase to 150 to 200 dozen gloves and mittens. (See "Machinery Wanted.")

N. C., Wilson—Beverages.—Wilson Pepsi-Cola Bottling Co. incorporated with \$25,000 capital stock by J. S. Bynum, J. C. Brown and Geo. L. Morgan.

Okla., Oklahoma City—Soap.—Benzene Soap Co. incorporated with \$10,000 capital stock by J. R. Thomas, R. N. Cunningham, Ralph W. Day and others.

Tenn., Memphis—Shirts.—Monogram Shirt Co. incorporated with \$10,000 capital stock by J. E. Henderson, A. B. Bonar, A. M. Patterson and others.

Tex., Dallas—Stenotypes.—Universal Stenotype Co. organized with \$150,000 capital stock; W. S. Ireland, president; R. M. Bowen, vice-president; George H. Pittman, treasurer; George G. Markley, secretary; contemplates erection of plant to manufacture stenotype machines.

Tex., Gilmer—Gilmer Manufacturing Co. incorporated with \$15,000 capital stock by T. H. Briggs, M. P. Mill, F. L. Futrell and others.

Tex., Orange—Brewery.—Magnolia Brewing Co. of Houston, Tex., awarded contract for erection of building on 4th St.

Tex., Sanderson—Wax.—Fred Sutton of Little Rock, Ark., is promoting establishment of plant to manufacture wax from candalaria plant.

Tex., Sugarland—Mattresses.—Sealy Mattress Manufacturing Co. of Dallas, Tex., will establish plant to manufacture mattresses; machinery and materials for building purchased; construction begun; daily capacity, over 100 mattresses.

Va., Hampton—Toys.—American Aeromobile Construction Co. incorporated with \$50,000 capital stock; John Weymouth, president; W. D. Trimble, vice-president; Lane Lacy, secretary.

Va., Lynchburg—Gloves.—L. P. Schlemm of Ohio City, O., will establish glove factory; will begin operations with 14 machines already purchased.

Va., Newport News—Burial Vaults.—Newport News Egyptian Burial Vault Corporation incorporated with \$50,000 capital stock; James L. Davis, president; A. H. Temple, vice-president; J. W. Gunter, secretary-treasurer.

Va., Norfolk—Glass.—National Glass Co. incorporated with James S. Groves, president, 419 Munsey Bldg.; A. W. Conway, secretary, 1000 M St. N. W., both of Washington, D. C.; establish glass factory using sand from Cape Henry, Va.; estimated cost of plant, \$250,000.

Va., Portsmouth—Gas Plants.—Portsmouth Gas Co. increased capital stock from \$150,000 to \$200,000.

W. Va., Charleston—Distillery.—Home Distilling Co. incorporated with \$50,000 capital stock by John D. Kittinger of Dry Branch, W. Va.; Thomas Farley, C. F. Zimmerman and W. W. Donnelly, all of Charleston.

W. Va., Grafton—Glass Tile.—Columbia Tile Co., recently reported incorporated and taking over plant of Empress Glass Co., organized with Charles R. Durbin, president;

Charles W. Steele, secretary, both of Grafton; William Nichols, general manager, of Wellsburg, W. Va.; will repair plant, install additional machinery and day tank for melting colored glass.

W. Va., Grafton.—Tygart's Valley Glass Co. will rebuild main tank, increasing capacity of tank from 50 to 100 tons and of plant from one to two carloads of glass jars, etc., daily.

W. Va., Sinks Grove—Creamery.—Bluegrass Creamery incorporated with \$10,000 capital stock by J. F. Black of Monitor, W. Va., and others.

RAILWAY SHOPS, TERMINALS, ROUNDHOUSES, SHEDS, ETC.

Ky., Ferguson, P. O. Somerset.—Cincinnati, New Orleans & Texas Pacific Railway (Queen & Crescent Route), C. Dougherty, chief engineer, Cincinnati, O., will not make extension to shops recently reported.

Okla., Oklahoma City—Oklahoma Street Railway Co., A. J. Bemis, general manager, plans expenditure of \$200,000 for improvements; \$75,000 for construction of shops to repair rolling stock; building will be one-story, concrete fireproof construction, 180x100 feet, equipped with electric hoists, machine and woodworking tools; \$125,000 for building addition to Belle Isle power plant, increasing present capacity of 2500 horse-power to 5000 horse-power; also contemplates enlarging substation at Olle Ave. and 2d St.

S. C., Florence.—Atlantic Coast Line Railroad, E. B. Pleasants, chief engineer, Wilmington, N. C., will, it is reported, enlarge shops.

ROAD AND STREET WORK

Ark., Pine Bluff.—City will grade Poplar St. from 6th St. to Twentieth Ave. and Twentieth Ave. from Elm to Cherry St.; bids opened January 2; W. L. Toney, Mayor; W. A. Lee, City Clerk.

Fla., Gainesville.—City has signed contracts for paving seven additional blocks on East Liberty St. and Alachua Ave. with vitrified brick; cost about \$20,000; brick curbing and all material has been ordered. Address The Mayor.

Fla., Jacksonville.—Duval County Commissioners awarded following contracts for road improvements: For grading, paving and curbing Panama Rd. with brick, to Fred Ogram for \$8943.25; for shell paving 64th St., to D. M. Baker for \$662.27; for grading Lake Shore Blvd., to J. Collier Brown for \$2369.63. Recently mentioned.)

Fla., Palatka.—City will receive bids until February 7 for construction of 16,500 square yards concrete sidewalks; S. C. Stallings, city engineer. (See "Machinery Wanted.")

Fla., Pensacola.—City engaged George Rommel, Jr., of Pensacola to supervise street paving; \$150,000 bond issue previously reported voted.

Miss., Brookhaven.—Lincoln county voted issuance of \$150,000 of bonds for construction of about 60 miles of gravel road in District No. 1. Address County Commissioners. Recently mentioned.)

Okla., Bartlesville.—City awarded contract to Kraull & Co. at \$2.35 per square yard for paving East 2d St., including curbing, guttering, grading and laying of sewers.

Okla., Muskogee.—City will grade, curb with granite and pave with vitrified brick laid on edge portion of 5th St.; to be graded and paved 60 feet on each side of center line of street; also construct sidewalk six feet wide; bids opened January 5; W. F. Divine, City Clerk.

S. C., Charleston.—Charleston Union Station Co., H. Woodruff, station master, contemplates future construction of 700 feet of 14 feet wide cement walks. (See "Railway Stations.")

Tenn., Athens.—McMinn county will construct three-mile road from Athens toward Madisonville; R. S. Henderson, chairman county court, received bids until December 31.

Tenn., Lafayette.—Lafayette Turnpike Co. incorporated with \$5000 capital stock by M. S. Woodmore, W. J. Gray, John Parker and others.

Tex., Denison.—Southwestern Surety Insurance Co. (bondor of former contractors) awarded contract to Roberts & McSpadden, Vinita, Okla., for completion of \$250,000 road contract in Denison precinct; original contractor abandoned contract after about \$10,000 worth of work had been completed. (Recently mentioned.)

Tex., Fort Worth.—City votes January 5 on issuance of \$300,000 of bonds for street paving; this will care for city's part in paving 24 miles of street already under contract, additional streets which property-owners

agree to pave, etc.; J. D. Trammell, City Engineer.

Va., Farmville.—City will receive bids (preferably on percentage basis) on engineering the construction of 1400 feet of pavement on Main St.; 42 feet wide; to be intersected by three streets; material to be used not decided; Dr. William E. Anderson, chairman street committee; lately mentioned. (See "Machinery Wanted.")

W. Va., Huntington.—City Commissioners will soon invite bids for street paving aggregating \$170,000; streets will include eight blocks on Eighth Ave. from 8th to 16th Sts., Johnson's lane, 2d St. from Third to Fourth Ave., 5th St. from Third to Sixth Ave., 7th St. from Second to Seventh Ave., etc.

SEWER CONSTRUCTION

Ala., Birmingham.—City will construct storm sewer system for North side; cost about \$200,000; Maury Nicholson, city engineer; contract recently incorrectly noted awarded to J. W. Gurley & Co., Mobile, Ala.

Fla., Pensacola.—City engaged George Rommel, Jr., of Pensacola to supervise construction of extension to sewer system; \$100,000 bond issue previously reported voted.

Ky., Louisville.—City will receive bids until January 20 for construction of 2d St. sewer, contract No. 77; P. L. Atherton, chairman Sewer Commissioners, 695 Equitable Bldg. (See "Machinery Wanted.")

Md., Brooklyn.—Anne Arundel county will construct sewer on Carroll and Fifth Sts., Brooklyn; County Commissioners, Annapolis, Md., will receive bids until January 17; S. O. Tilghman, clerk. (See "Machinery Wanted.")

Okla., Collinsville.—Board of Trustees, John H. Middleton, president, will receive bids until January 14 for furnishing material and constructing sanitary sewer system; specifications, blank proposals and plans on file at office of clerk and at offices of O'Neil Engineering Co., 1503 Praetorian Bldg., Dallas, Tex.; bids opened January 16; W. J. Pattison, clerk. (See "Machinery Wanted.")

Okla., Hominy.—City voted issuance of \$36,000 sewer and water bonds. Address The Mayor.

Okla., Muskogee.—City is arranging for construction of sewer system No. 15; bids opened January 5; W. F. Divine, city clerk.

Tex., Beeville.—City has awarded contract to Trueheart & Jackson, San Antonio, Tex., at \$21,000 for construction of proposed sewer system; work will be under supervision of Terrell Bartlett, civil engineer, San Antonio, Tex., who prepared plans; \$30,000 bond issue available.

Tex., El Paso.—City Commissioners awarded contract to Amos Trainor of El Paso at \$4.85 per foot to construct 1700 feet of trunk sewer in Seventh St.; total amount of contract, \$8200.

Tex., Fort Worth.—City votes January 5 on issuance of \$40,000 of bonds for storm-sewer construction; J. D. Trammell, City Engineer.

Va., Smithfield.—City will vote February 21 on issuance of \$55,000 of bonds for construction of sewer system and electric-light plant. Address The Mayor.

TELEPHONE SYSTEMS

Ark., Camden.—Rice Belt Telephone Co. incorporated with \$60,000 capital stock by W. B. Ritchie, B. C. Powell and B. C. Blain.

Ky., Everts.—Martin's Fork Telephone Co. organized with \$2000 capital stock by C. Haynes and others; will establish telephone systems, with extensions, to Jonesborough and Poor Fork.

Ky., Fullerton.—Fullerton Home Telephone Co. incorporated by John Arthur, J. R. Shepherd, Lyman Warnock and others.

Ky., New Concord.—Blood River Telephone Co. incorporated by J. T. Burton, W. H. Curd and J. T. Mitchell.

Ky., Shiloh, R. F. D. from Murray.—Shiloh Telephone Co. incorporated by T. M. Ross, J. N. Ragsdale and J. H. Clark.

Tex., Houston.—Home Telephone Co. will open bids after February 1 for erection of structure recently noted; two stories and basement; 50x10 feet; fireproof construction; hot-water heat; concrete and cement prism lights; electric elevator; cost, \$30,000; plans by C. D. Hill & Co., Dallas and Houston, Tex.

TEXTILE MILLS

Ala., Eufaula—Print Cloth, etc.—Glenola Cotton Mills (recently reported incorporated with \$50,000 capital stock) has organized with J. P. Foy, president, and C. A. Covey, secretary-treasurer; acquired Barbour Cot-

ton Mills; has 5800 ring spindles, 148 broad looms, etc.

Ga., Lagrange—Cotton Cloth.—Dunson Mills engaged J. E. Sirrine, Greenville, S. C., to prepare plans and specifications for plant; company previously reported incorporated with \$1,000,000 authorized capital stock; W. D. Dunson is superintendent.

Mo., St. Louis—Bleachery.—Lowell Bleachery, Lowell, Mass., has appointed committee to investigate advisability of building branch plant lately noted.

N. C., Newton—Cotton Cloth.—Newton Cotton Mills now building addition reported last week; 75 by 104 feet; mill construction; will install 60 looms, which have been ordered.

Okla., Chickasha—Kalt Goods.—Stuart Maxwell of Philadelphia, Pa., is reported as planning to operate knitting mill of Oklahoma Cotton Mills Co.

S. C., Greenville—Cotton Cloth.—Duncan Cotton Mills will be organized by Ellison A. Smyth, J. Adger Smyth, Jr., and associates to build plant lately mentioned; capital stock, \$1,000,000; will have about 50,000 spindles and 1500 looms.

Tex., Cuero—Sheeting, etc.—Cuero Cotton Factory will make improvements recently reported planned; erect additional buildings; install 2000 spindles, picking, carding and weaving machinery; install humidifiers and steam-heating plant; thoroughly overhauled present equipment; cost, \$50,000; engineer in charge, John Hill of Atlanta, Ga.; manager, J. C. Saunders of the Bonham Cotton Mills, Bonham, Tex.

Tex., Prairie View.—Cotton Duck.—Prairie View Development Co., Houston, Tex., is locating mill. (See "Machinery Wanted.")

WATER-WORKS

Ga., Fairburn.—City will vote January 14 on issuance of \$20,000 water-works bonds. Address The Mayor.

La., Patterson.—City contemplates construction of water-works; power to be furnished by F. B. Williams Cypress Co. Address The Mayor.

Mo., Moberly.—City contemplates extending water-works; L. G. Knapp & Co., Kansas City, Mo., are engineers; Rolla Rothwell, Mayor.

Mo., Plattsburg.—City is having preliminary plans prepared by Rollins & Westover, Beals Bldg., Kansas City, Mo., for water-works and electric-light plant; cost, \$50,000.

Okla., Delaware.—City voted issuance of \$25,000 of bonds for construction of water-works. Address The Mayor.

Okla., Francis.—City will construct water-works; C. A. Rees, Flynn-Ames Bldg., Muskogee, Okla., will receive bids until January 2 for furnishing and delivering f. o. b. cars Francis cast-iron pipe, special castings, valves and hydrants; also for construction of steel tower with 50,000-gallon tank; alternate bids received for 75-foot tower with 75,000-gallon tank.

Okla., Guthrie.—F. S. Guthrie, Perryburg, N. Y., purchased Crystal water-works and will operate; will probably make improvements.

Okla., Guthrie.—City will improve filtration plant; betterments will include single-stage centrifugal pump to supply wash water to filters, direct connected to electric motor to be equipped with starting box, pump to supply 1400 gallons of water per minute; pressure blower direct connected to electric motor to be equipped with starting box, pressure blower to supply 300 cubic feet of free air at pressure of five pounds per square inch; complete air manifold system for two filter beds, each filter 10x18 feet; A. A. Leer, City Clerk, received bids until January 5.

Okla., Hominy.—City voted issuance of \$35,000 water and sewer bonds. Address The Mayor.

Okla., Oklahoma City.—City will vote February 14 on issuance of \$1,500,000 of bonds for new water-works; Alexander Potter of New York is engineer. (Further facts recently mentioned.)

Okla., Ralston.—City will construct water-works; C. A. Rees, Flynn-Ames Bldg., Muskogee, Okla., will receive bids until January 2 for furnishing and delivering f. o. b. cars at Ralston cast-iron pipe, special castings, valves and hydrants; also for construction of steel tower with 50,000-gallon tank, etc.

Okla., Stillwell.—City will expend \$45,000 to construct water-works and electric light plant; water-works to have daily capacity of 500,000 gallons; will erect 50x35-foot powerhouse and 24x24-foot pump-house; brick; material purchased; contract recently noted awarded to Southwestern Engineering Co., Oklahoma City, Okla.

Okl., Walter.—City will construct water-works; C. A. Rees, Flynn-Ames Bldg., Muskogee, Okla., will receive bids until January 2 for furnishing and delivering f. o. b. cars at Walter cast-iron pipe, special castings, valves, hydrants, etc.; also for construction of steel tower with 60,000-gallon tank, etc.

Tex., Dallas.—City Commission awarded contract to Kinnison Bros. of Dallas at \$7280 to construct eight-inch pipe line along Pacific Ave. from Trinity River to Harwood St.; contracting company will install pump and engine at river of not less than 75 horsepower; six-inch gate valves are to be placed at all street intersections.

Tex., El Paso.—City will enlarge and improve water-works by erection of pump-house, installation of additional engine and pump and drilling 10 more wells; F. H. Todd, City Engineer. (Previously mentioned.)

Tex., Fort Worth.—City votes January 5 on issuance of \$1,500,000 of bonds for improvements to water-works, including improvements of pumping machinery, extension of artesian-well system by construction of southside plant, for securing land and construction of surface reservoir; J. D. Trammell, City Engineer. (Recently mentioned.)

Tex., Gainesville.—City will vote January 10 on issuance of \$150,000 of bonds for purchase and improvement of plant of Gainesville Water Co.; J. W. Puckett, Mayor. (Recently mentioned.)

Tex., Miles.—City will construct \$20,000 water system; has contracted with O'Neil Engineering Co., Dallas, Tex.; water to be secured from deep wells.

Tex., Palacios.—City invites bids from private parties for constructing and operating water-works. Address City Secretary. (See "Machinery Wanted.")

Va., Martinsville.—City voted issuance of \$25,000 of bonds for improvements to water-works and electric-light plant. Address The Mayor.

WOODWORKING PLANTS

Ala., Decatur.—Wagons.—Florence Wagon Works, S. C. Harlan, general manager, Florence, Ala., contemplates establishing wagon factory.

Ark., Conway.—Spokes, etc.—W. C. Mover, Des Moines, Ia., is negotiating with Conway Board of Trade regarding establishment of \$25,000 spoke and handle factory.

Ark., Helena.—Furniture.—James A. Scott Mfg. Co. will establish plant for "glueing up" furniture.

Ky., Hopkinsville.—Furniture.—Keach Furniture Co., incorporated with \$42,200 capital stock by H. A. Keach, O. Keach and Carl Keach.

La., Bolinger.—Handles, etc.—S. H. Bolinger Lumber Co. will establish plant for manufacturing handles, spokes and singletrees.

N. C., Lenoir.—Chairs.—Lenoir Chair Co., lately reported to rebuild burned plant, has incorporated with \$200,000 capital stock; S. S. Jennings, W. A. Shell, B. L. Stone and others are incorporators; awarded contract to M. C. Triplett, Lenoir, for erection of machine and tin room; each three stories high; 75x150 feet and 30x120 feet; machinery purchased; daily capacity 600 to 700 chairs; W. A. Shell is manager.

N. C., Thomasville.—Chairs.—Cramer Furniture Co. will rebuild portion of plant recently reported burned; new building larger and of standard brick construction; it and two other plants and finishing and storage buildings will be equipped with automatic sprinkler system; buildings will be cut into sections having fire walls between; will also erect 70x200-foot addition to No. 2 plant; expenditure, about \$125,000; Stuart W. Cramer of Charlotte, N. C., is principal owner.

Okl., Tulsa.—Mill Work.—Merrill Mill Work Co. will install additional machinery; addition, 29x30 feet, of corrugated iron, is being erected for bench room.

S. C., Branchville.—Caskets, etc.—Branchville Casket Mfg. & Novelty Co., incorporated with \$3000 capital stock by Preston Ott and W. H. Warren.

Tenn., Memphis.—Cooperage.—W. L. Fay of Dixie Cooperage Co. will establish plant for manufacturing kegs; daily output 600 to 800 kegs.

Tex., Brownsville.—Sash and Doors.—Sash & Door Manufacturing Co. is name of company to establish plant to manufacture mill work; erect 24x50-foot building; two stories; ordinary construction; install machinery; Homer L. Fitch, Box 562, recently noted interested. (See "Machinery Wanted.")

Tex., Crystal City.—Furniture.—Dr. E. S. Link will establish plant for manufacturing furniture from mesquite timber; build

power plant on east bank of river for pumping water to proposed sawmill.

Tex., Fort Worth.—Wagons.—Warren Heat on, Neosho, Mo., and associates will organize company to establish wagon factory; output about 5000 wagons per year; about \$200,000 to be invested; machinery purchased.

Tex., Nacogdoches.—Shuttle Blocks.—L. C. Russell, Chicago, Ill., is arranging for construction of shuttle-block factory.

Va., Kenbridge.—Spokes and Handles.—Kenbridge Handle & Spoke Co., incorporated with \$25,000 capital stock; J. M. Harris, president, Blackstone, Va.; L. W. Bridgeforth, vice-president, Kenbridge; F. W. Clark, secretary-treasurer, Kenbridge.

W. Va., Parkersburg.—Handles.—American Handle Works is name of company to establish factory recently noted; building erected; machinery purchased; will install handle lathes, drag and bolting saws; daily capacity 100 doz. handles; organization of company not perfected; Harry O. Steiner, Manor, Pa., is interested. (See "Machinery Wanted.")

BURNED

Ala., Brewton.—First Baptist Church building; estimated loss \$11,000; Rev. W. M. Murray is pastor.

Ala., Eufaula.—Woolridge Bros.' saw mill, grist mill, planing mill and dry kiln; loss \$4000.

Ala., Newville.—Farmers' Union cotton gin.

Ala., New Decatur.—Stroup & Co.'s cotton gin.

Ala., Oneonta.—J. A. Brice & Son's store building, loss \$14,000; Oneonta Bank & Trust Co.'s building, loss \$8000.

Ark., Algon.—J. A. Stringer's sawmill; loss, \$5000.

Ark., Earle.—J. H. Hammett's residence; loss \$3000.

Ark., Imboden.—Commercial Hotel, owned by F. P. Henry.

Ark., Little Rock.—Hollenburg Music Co.'s store; two buildings owned by Governor Donaghey, and other buildings owned by Fulk estate and Elizabeth Shall estate; total loss \$1,200,000.

Ark., Mount Ida.—Wycaster & Co.'s store, loss \$2000; A. L. Smith's store; Sheriff Harwell's warehouse and barn; W. R. Whitley's store, loss \$5000; Montgomery Times plant, loss \$1500; total loss \$16,500.

Ark., Pine Bluff.—Bluff City Bk.; building owned by Arthur Murray; loss \$5000.

Ark., Smithville.—A. J. Johnson's store; loss, \$10,000.

Ark., Smithville.—A. J. Johnson's store; loss \$10,000.

Ark., Little Rock.—John B. Winkler's residence at 331 High St.; loss \$4000.

Ark., Paragould.—Farmers Union cotton gin and warehouse; loss, \$10,000.

Fla., Fort Meade.—W. J. Stevens' bakery, Gay Building, W. J. Durrance's store and dwelling; loss \$15,000.

Fla., Jacksonville.—Monerlef Park Association's feed and implement stables; loss, about \$8000.

Ga., Atlanta.—Schoen-Porter Fertilizer Co.'s plant; loss \$120,000.

Ga., Rome.—D. W. Barnett's residence; loss, \$15,000.

Ga., Macon.—S. L. Gillen's store; Bryan & Colclough's store; Postoffice; Ancient Free and Accepted Masons' hall and other buildings; total loss \$30,000.

Ga., Waycross.—Commissary Supply Co.'s store; J. T. Rogers' residence; loss \$24,000.

Ky., Cave City.—C. Y. White & Co.'s store, loss \$18,000; C. W. Boston's store, loss \$4000; F. Curd's postoffice and two other buildings, loss \$2500.

Ky., Madisonville.—Haywood Wagon Co.'s plant; estimated loss, \$2700; loss on building, owned by Barnett heirs, estimated at \$5000.

La., Columbia.—Columbia Hardware & Furniture Co.'s store; loss, \$10,000.

La., Covington.—Jones & Pickett's turpentine still; loss \$2000.

La., Eunice.—A. F. McGhee's residence; loss \$4000 to \$5000.

La., Lake Charles.—Two dwellings owned by Mrs. L. H. Bradfield; loss \$9000.

Md., Annapolis.—Young Men's Christian Association Bldg. and Charles Howard's plumbing establishment damaged; loss \$15,000.

Md., Annapolis.—Mayor James F. Strange's stable.

Md., Baltimore.—Brown Arcade Bldg. at 320-30 North Charles St., owned by Frank Brown, 328 North Charles St., damaged; loss, \$15,000.

Md., Baltimore.—Baltimore Antiseptic Laundry Co.'s plant at 1531-33 Myrtle Ave.

Md., Ruxton.—Dwelling owned by Edward Rider, Jr., W. E. Rider and Mrs. Mary Has-lup; loss \$5000.

Miss., Yazoo City.—Mrs. N. E. Warren's residence damaged.

Mo., Clayton.—Autenreith Hotel.

N. C., Charlotte.—City crematory; loss \$6000. Address The Mayor.

N. C., Dunn.—C. F. Pope's store building; loss several thousand dollars; building owned by D. H. Hood and J. W. Whitehead.

N. C., Elizabeth City.—Dare Lumber Co.'s loading plant; estimated loss, \$10,000.

N. C., Winston-Salem.—Brand & Dunn's store building owned by Will Chamberlain; W. I. Brooks' residence; total loss, \$8000.

Okl., Okla.—School building; loss \$8000. Address The Mayor.

Okl., McAlester.—Jones Manufacturing Co.'s planing mill; reported loss \$35,000.

S. C., Lamar.—M. J. Spear's cotton gin; loss \$3000.

Tex., Fulshear.—J. G. Mayes' store, loss \$4500; M. K. Mayes' store, loss \$12,500; M. Solomon's store, loss \$7500; Geo. Hunken's building, loss \$6000.

N. C., Winston-Salem.—Brandon & Dunn's store, loss \$5900; Walker & Armfield's store, loss \$3000; W. J. Brooks' residence, loss \$3000.

S. C., Sumter.—J. B. McLauchlin's cotton gin and saw mill; loss \$5000 to \$6000.

S. C., Sumter.—Sumter Brick Works, owned by I. A. Ryttenberg; loss \$25,000.

Va., Buena Vista.—J. N. Thompson's building; loss \$3000.

Va., Norfolk.—Burt Shoe Co.'s store at 334 Main St.; loss \$17,000.

W. Va., Lumberport.—Consolidated Coal Co.'s office buildings; loss about \$25,000.

W. Va., Wheeling.—H. L. Bond's residence.

BUILDING NEWS

BUILDINGS PROPOSED

APARTMENT-HOUSES

Ga., Atlanta.—Fitzhugh Knox will erect apartment-house; four stories; 75x200 feet; cost \$80,000.

La., New Orleans.—J. P. Henderson of Chicago, Ill., is promoting erection of apartment house; 10 stories; garage, servants' quarters, stables, etc.; cost, including site, \$200,000.

Md., Baltimore.—Louis Young, 1936 E. Lafayette Ave., purchased dwellings at 1636-38 Alsquith St. and will, it is reported, remodel for apartment-house.

Mo., St. Louis.—H. Eastman and A. J. Gale will erect five buildings; lower floor stores; upper floors for apartments.

Va., Norfolk.—F. M. Killam will erect brick and frame apartment-house; three stories; 40x52 feet; five apartments; steam heat; electric lighting; plans by Ferguson, Calrow & Taylor, Norfolk; cost \$12,000; construction by owner.

ASSOCIATION AND FRATERNAL

Fla., Tampa.—Tampa Chapter, American Women's League, is planning erection of clubhouse.

Ga., Macon.—Howard Lodge, No. 138, Ancient Free and Accepted Masons, will rebuild lodge building reported burned; 20x50 feet.

Md., Baltimore.—Morning Star Council No. 10, Junior Order United American Mechanics, 1204 W. Baltimore St., is reported as having plans prepared by William White for lodge building; three stories; ornamental granite, brick and stone; hardwood and tile trimmings; ornamental ceilings; steam heat; electric lights; cost \$50,000; Charles L. Stockhausen, National Marine Bank Bldg., and Fred Decker & Son, 1209 E. Biddle St., both of Baltimore, are estimating.

Miss., Richton.—Ancient Free and Accepted Masons, D. W. Kelly, worthy master, plans erection of two-story brick temple.

N. C., Greensboro.—Masonic and Eastern Star Home, L. M. Clymen, grand patron, O. E. S., has plans by Hook & Rogers, Charlotte, N. C., for home; colonial design; cost \$150,000.

S. C., Columbia.—Young Men's Christian Association is having plans revised by Shand & Lafaye, Columbia, for building and will receive new bids until January 17; five stories and mezzanine floor; 84 dormitory rooms; swimming pool 20x60 feet; gymnasium 45x76 feet; cost \$100,000. (Recently noted.)

Tex., Austin.—Independent Order of Odd Fellows will, it is reported, erect lodge building on Brazos and 9th Sts.

BANK AND OFFICE

Ala., Anniston.—Anniston National Bank, Frank Leigh, cashier, will erect bank building; one story; 25x62 feet.

Ala., Oneonta.—Oneonta Trust & Banking Co. will rebuild bank building reported burned at loss of \$8000.

Fla., Jacksonville.—Fire Station.—City will erect 32x60-foot fire station recently noted; ordinary construction; cost \$5500; will advertise for bids. Address The Mayor.

La., Campti.—Citizens' Bank, T. K. Giddens, president, will erect \$4000 bank building. (See "Machinery Wanted.")

Md., Baltimore.—Third National Bank and

National Bank of Baltimore (consolidated) will have plans prepared by Baldwin & Pennington, Professional Bldg., Baltimore, for remodeling interior of bank building at Baltimore and St. Paul Sts., now occupied by National Bank of Baltimore.

S. C., Chester.—Commercial Bank purchased site for \$10,000 on which to erect two-story brick bank, office and store building.

Tex., Alvin.—Wells-Fargo Express Co. will erect express office building; brick; cost \$10,000; New York offices are at 51 Broadway.

Tex., Dallas.—Dan Sountheil will erect office building; three stories; reinforced concrete; fireproof; cost \$30,000; bids will soon be invited.

Tex., Laredo.—J. K. Baretta purchased site for \$18,000 on which to erect six-story bank and office building.

Va., Petersburg.—Appomattox Trust Co. has not definitely prepared plans for rebuilding structure recently reported burned.

Va., Richmond.—Police Station.—City awarded contract to E. L. Bass, Richmond, for remodeling portion of city jail as police station recently noted.

W. Va., Bluefield.—Norfolk & Western Railway, C. S. Churchill, chief engineer, Roanoke, Va., will erect second-story to express office.

CHURCHES

Ark., Helena.—First Methodist congregation considering erection of edifice at cost of \$40,000 or enlargement of present structure at cost of \$25,000. Address The Pastor, First Methodist Church.

Miss., Biloxi.—Lutheran Church will erect edifice to cost \$3000; Martin Hass is president of congregation.

N. C., Clinton.—Presbyterian Church has plans by H. E. Bonitz, Wilmington, N. C., for edifice to cost \$10,000; 35x50 feet; brick; slate roof; will open bids February 10. Address architect.

N. C., Greensboro.—Holy Trinity Protestant Episcopal Church will erect \$30,000 edifice previously noted; ordinary construction; probably begin to build in spring. Address Thomas G. Faulkner, 409 N. Elm St.

N. C., Mount Olive.—Methodist Church has plans by H. E. Bonitz, Wilmington, N. C., for edifice to cost \$12,000.

Tenn., Glendale.—Presbyterian congregation purchased site for \$5250 on which to erect edifice. Address The Pastor, Presbyterian Church.

Tenn., Hill City.—First Ave. Methodist Episcopal Church South contemplates erecting edifice to cost \$15,000. Address The Pastor, Forest Ave. Methodist Episcopal Church South.

Tex., New Braunfels.—Methodist Church, Rev. H. O. Launch, pastor, will erect edifice recently noted; fireproof construction; electric lighting; cost \$8000; plans not definite.

Tex., Sweetwater.—First Methodist Church accepted plans by Parry & Spicer of Sweetwater for edifice; stucco or brick; 80x110 feet; will consist of basement for Sunday-school and social functions and main auditorium with seating capacity of 1110; cost \$25,000, exclusive of pews and furniture; G. E. Ramsey, president building committee.

Tex., Taylor.—Swedish Methodist Church, Rev. T. J. Westerberg, pastor, contemplates erecting brick edifice.

Tex., Waco.—Herring Avenue Methodist congregation will erect edifice. Address The Pastor, Herring Avenue Methodist Church.

COURTHOUSES

Ark., Arkansas City.—Desha county, Chas. H. Halley, Judge, contemplates erection of addition to courthouse.

DWELLINGS

Ala., Birmingham.—Fidelity Mortgage & Security Co. will erect two-story frame dwelling; cost \$5000.

Ala., Birmingham.—W. H. Halliday will erect two-story frame dwelling; cost \$3000.

Ala., Birmingham.—Ensley Land Co. will erect seven two-story frame dwellings to cost \$20,000 and 16 one-story frame dwellings to cost \$18,000.

Ala., Birmingham.—Donald Comer will erect two-story frame dwelling; cost \$4000.

Ala., Birmingham.—C. W. Mills will erect three one-story frame dwellings to cost \$2000 each and two two-story frame dwellings to cost \$2500 each.

Ala., Corey, P. O. Birmingham.—George B. Tarrant has plans by William Leslie Welton, 1209 Empire Bldg., Birmingham, for dwelling; one story; frame; cost \$2000; bids opened.

Ala., Corey, P. O. Birmingham.—H. E. Dalbey has plans by William Leslie Welton, 1209 Empire Bldg., Birmingham, for one-story bungalow; frame; cost \$2000; bids opened.

D. C., Washington.—Harry A. Kite, 1333 G St. N. W., will erect 10 or 12 bungalows at Cleveland Park; six rooms, bath and pantry; covered stone front porches 11x25 feet; back porches also.

Fla., Jacksonville.—Chas. A. Brown will erect two two-story frame dwellings; cost \$5500.

Fla., Jacksonville.—Fred T. Coryell will erect two two-story frame dwellings; cost \$4000.

Fla., Jacksonville.—B. D. Dougherty will erect one-story frame dwelling; cost \$3000.

Ga., Concord.—J. H. Smith is reported as contemplating erection of dwelling.

Ga., Concord.—Charles T. Smith will erect \$12,000 residence.

Ga., Macon.—C. B. Willingham purchased site at 4th and Mulberry Sts. and will erect several dwellings and stores.

Maryland.—John J. Hurst, 263 Calvert Bldg., Baltimore, Md., will erect two bungalows on Middle river. (See "Land Development.")

Md., Baltimore.—Frank Novak, 2808 Jefferson St., contemplates erection of number of dwellings on Philadelphia Rd.; two stories.

Md., Baltimore.—Mrs. Gordon Paine, 200 E. Preston St., will erect residence on University Parkway.

Md., Baltimore.—Walter Westphal, Highland Ave. and Baltimore St., is reported to erect number of two-story brick dwellings; 14x45 feet.

Md., Baltimore.—Louis Young, 1936 E. Lafayette Ave., is reported to erect three dwellings on Holbrook St., near Lanvale St.

Md., Baltimore.—Edward Storck, Gunther Bldg., purchased site at Fair and Lakewood Aves. and will erect number of dwellings.

Md., Baltimore.—Geo. E. Warfield, 2531 W. Fairmount Ave., has plans by F. E. Beall, 213 St. Paul St., Baltimore, for five dwellings at Smallwood Ave. and Vine St.; two stories; 14x42 feet; brick and wood construction; hot-air furnaces; sewer connection; gas lighting; cost \$1200 each; construction by owner. (See "Machinery Wanted.")

Md., Baltimore.—Eugene Biscoe, 1048 N. Eden St., is reported to erect 12 porch-front semi-detached dwellings at Old Frederick Rd. and Woodland Ave., Irvington.

Md., Roland Park.—Judson C. Carroll, St. Paul Apartments, Baltimore, Md., has plans by E. L. Palmer, 408 Roland Ave., Roland Park, for residence; two-and-a-half stories; ornamental frame; stone base and foundation; slate roof; hardwood flooring; hot-water heat; electric lights; cost \$10,000.

Miss., Meridian.—T. C. Lockard will rebuild dwelling recently burned; loss \$10,000.

Miss., Meridian.—R. L. Turner will rebuild dwelling recently reported burned.

Miss., Meridian.—A. R. Johnson will rebuild dwelling recently reported burned; loss \$3000.

Mo., St. Louis.—Dawson Investment Co. purchased 300-foot site and will erect several dwellings.

N. C., Black Mountain.—Blue Ridge Association will erect 10 cottages, 20x40 feet; plans by L. E. Jallade, 37 Liberty St., New York; bids opened January 2. (See "Schools.")

Tenn., Chattanooga.—Mrs. Nathan Frank, Vine and Baldwin Sts., will erect dwelling on 4th St.; brick; stone trimmings; metal roof; cost \$4500.

Tenn., Chattanooga.—B. Cook, 418 Elm St., is preparing plans for four dwellings on East End Ave.; five and six rooms each; frame; cabinet mantels, shingle roof; gas and electric lighting; cost \$2000 each.

Tenn., Knoxville.—J. H. Anderson of Anderson-Dulin-Varnell Company will open bids February 10 for erection of dwelling recently noted; 12 rooms; brick veneer; hot water; cost \$20,000; plans by R. F. Graf & Sons, Knoxville.

Tex., San Marcos.—Mrs. W. R. Jennings of Martindale, Tex., will erect \$9000 residence.

Tex., San Marcos.—Geo. H. East will erect \$8000 or \$3000 residence.

Va., Norfolk.—J. A. Goodwyn will erect frame residence; cost \$2500.

Va., Pulaski.—Neil Bunts contemplates erection of residence.

Va., Pulaski.—F. H. Board contemplates erection of residence.

Va., Richmond.—Harvey C. Brown will erect 12 brick dwellings; cost \$5000 each.

Va., Richmond.—Mrs. Louisa W. House will erect dwelling; two stories; brick; cost \$3750.

Va., Richmond.—Mrs. Annie Perkins will erect dwelling; two stories; brick; cost \$3750.

Va., Roanoke.—S. B. Pace has plans by H. M. Miller, Roanoke, for dwelling recently noted; 80x70 feet; stone; hot water heat; gas and electric lighting; cost \$12,000; date of opening bids not set.

W. Va., Wheeling.—John Earlewine will erect residence.

W. Va., Wheeling.—W. W. White will erect two-story dwelling.

GOVERNMENT AND STATE

Okl., Guthrie.—Capitol.—State Capitol Building Co. incorporated by H. Overholser, C. F. Colcord, C. G. Jones, W. F. Harn, J. J. Culbertson, K. W. Dawson and others, all of Oklahoma City, Okla., to erect State Capitol building, costing \$1,000,000.

HOTELS

Ark., Imboden.—F. P. Henry will probably rebuild Commercial Hotel reported burned; brick construction.

D. C., Washington.—Morris Winston of New York is having plans prepared by Jacob Sommer of Brooklyn, N. Y., for hotel at 1st St. and Pennsylvania Ave. N. W.; five stories; 100 rooms; limestone, pressed brick and iron; cost \$125,000.

Fla., Jacksonville.—Hamilton Investment Co., organized by P. A. Holt and Charles F. Flynn, has plans by McClure & Holmes, Jacksonville, for hotel; four stories and basement; two upper floors, each to contain 14 rooms and five baths; brick; cost \$40,000.

Fla., Seabreeze.—Nautilus Hotel Co. has not let contract (as recently stated) for erection of hotel; fireproof construction; to contain 150 rooms; heating, lighting and other details not decided; cost \$300,000; plans by S. H. Gore, Daytona, Fla.; will open bids shortly. Address T. F. Williams, Daytona, Fla., for further information.

Fla., Port St. Joe (not a postoffice).—Port St. Joe Company, P. H. Hemphill, vice-president, Pensacola, Fla., will erect hotel; 50 rooms; cost \$30,000; construction begun. (See "Machinery Wanted.")

La., Pitkin.—Roberts Lumber Co. will remodel three tenement-houses as hotel building.

N. C., Albemarle.—James R. Moss has not determined upon plans for erection of hotel recently noted; 60x80 feet; cost \$15,000 to \$20,000.

N. C., Black Mountain.—Blue Ridge Association will erect 32x300-foot hotel; plans by L. E. Jallade, 37 Liberty St., New York; bids opened January 2. (See "Schools.")

N. C., Wilmington.—John W. Harper contemplates, it is reported, erection of hotel to replace structure recently reported burned.

Okl., Vinita.—Bullington & Morris have plans by J. W. Roberts, Claremore, Okla., for hotel; fireproof construction; 98x120 feet; steam heat; electric lighting.

Tex., Rockport.—W. B. MacSherry of Washington, D. C., is, it is rumored, having plans prepared for hotel; 150 rooms; reinforced concrete; cost \$300,000; will construct wharf at end of which will be pavilion containing 40 rooms and dance hall; also erect bathhouse, etc.; Mr. MacSherry is temporarily in San Antonio, Tex.

Tex., San Marcos.—J. H. Vaughan has plans for five-story hotel; cost \$50,000.

Va., Charlottesville.—George D. Smith, 1025 Westland St., has purchased Hotel Gleason and will make improvements, including private baths and installation of electric elevator, etc.; later contemplates more extensive alterations and additions; present amount of expenditure, \$5000. (See "Machinery Wanted.")

MISCELLANEOUS

Ark., Hot Springs.—Bathhouse.—Rammelsberg Bathhouse Co., G. E. Hogaboom, manager, will open bids March 1 for erection of bathhouse recently noted; three stories; first floor, 90x100 feet; fireproof construction; high-pressure steam heat, with laundry connection; passenger elevator; will use 20,000 square feet of marble; planning construction on percentage basis; cost \$100,000. (See "Machinery Wanted.")

Fla., Miami.—Baths, etc.—Dr. Charles Webster and associates contemplate erecting reinforced concrete building to contain Turkish baths, two swimming pools, sleeping-rooms, etc.

Ga., Macon.—Sanitarium.—Dr. Howard Williams has plans for \$25,000 sanitarium. (Previously mentioned.)

Miss., Meridian.—Fair Buildings.—Mississippi-Alabama Fair Association will erect fair buildings; ordinary construction; architect not selected; details not determined. Address Meridian Board of Trade.

N. C., Durham.—Children's Home.—North Carolina Children's Home Society has plans by W. L. Brewer, Greensboro, for receiving home for society; 80 feet square; two stories and basement; fireproof construction; heating and lighting not decided; cost, \$25,000; construction of central building will begin about November 1, 1911. (Recently noted.)

N. C., Wilmington.—Pavilion.—John W. Harper has plans by H. E. Bonitz of Wilmington for pavilion to replace structure recently reported burned; new building will be 150 feet long and 40 feet wide, with annex 30x30 feet, making 7200 square feet of floor surface; 456 linear feet of veranda, 15 feet wide; bungalow type; 6 feet above ground; roof and sides will be shingled; electric-light plant; will let contract January 10; plans on file at office of Mr. Bonitz and wharf of steamer Wilmington.

Tex., Denison.—Clubhouse.—Denison Rod & Gun Club will open bids about January 31 for erection of clubhouse recently noted; 32x60 feet, with 14-foot porch; two stories and basement; frame; gas lighting; cost \$5000; plans by J. H. Little, Denison. Address proposals to H. Tone, Jr.

Va., Richmond.—Bathhouse.—John P. Branch contemplates erecting bathhouse in West End to cost about \$25,000.

W. Va., Wheeling.—Lockmen's House.—F. S. Engineer's Office, F. W. Altstaeter, captain engineers. Sealed proposals for building ten lockmen's houses with water closets at Locks Nos. 2, 3, 4, 5, 6, 7, 8, 9, 10 and 11, Kanawha river, will be received until 11 A. M., January 28, 1911, and then publicly opened; information on application.

RAILWAY STATIONS

Ark., Little Rock.—Chicago, Rock Island & Pacific Railway, J. B. Berry, chief engineer, Chicago, Ill., is having plans prepared for freight station.

Md., Berlin.—Baltimore, Chesapeake & Atlantic Railway, W. U. Polk, superintendent, Salisbury, Md., is proceeding with construction of union freight station recently noted; 50x100 feet; ordinary construction; cost \$2500; plans and construction by company.

S. C., Charleston.—Charleston Union Station Co., N. Woodruff, station master, contemplates future construction of 700 feet of three lengths, or 2100 feet, of cement walks, 14 feet wide and umbrella sheds 400 feet long on each walk; construction not to begin until fall of 1911. (Recently noted.)

SCHOOLS

Fla., Tallahassee.—Florida Agricultural College will open bids in February for erection of 38x52-foot building and other structures; brick veneer; gas and electric lighting; cost of one building, \$6000; plans by Armwood & Johnson, Tallahassee. Address Secretary State Board of Control, Tallahassee.

La., Ruston.—City voted \$5,000 bond issue to erect school; R. B. Knott, Mayor. (Recently noted.)

Md., Baltimore County.—Baltimore County Commissioners, Towson, Md., are reported as planning erection of manual-training school on Park Heights Ave.; two stories; brick; marble and stone trimmings; hardwood and tile interior finish; steam heat; cost \$40,000.

Md., Owings Mills.—Maryland Asylum and Training School for Feeble-Minded, Frank W. Keating, superintendent, will receive bids

until noon February 1 for erection of dining-room and dormitory building, single dormitory and day-room building, double dormitory and day-room building, and manual training and assembly building; certified check for \$500; plans, specifications, etc., at office of Ellicott & Emmart, architects, 114 Union Trust Bldg., Baltimore, Md., or may be had on deposit of \$10. (Previously noted.)

Mo., Fulton.—Westminster College plans erection of \$4,000 gymnasium and students' building.

N. C., Black Mountain.—Blue Ridge Association will expend \$60,000 to erect buildings for Young Men's and Young Women's Christian associations and Young People's Missionary Movement; buildings to include hotel 320x330 feet; auditorium 70x90 feet, gymnasium 70x90 feet, and 10 cottages 20x40 feet; frame; steam heat; electric lighting; plans by L. E. Jallade, 37 Liberty St., New York; bids opened January 2. Address proposals to architects. (Recently noted.)

Okl., Clinton.—School Board has not selected architect to prepare plans for school building recently noted; eight rooms; brick; ordinary construction; steam heat; electric wiring; cost \$20,000; will let contract about February 15.

Okl., Goltry.—City will vote on \$15,000 bond issue to erect school. Address The Mayor.

Okl., Hydro.—City voted \$4000 bond issue to erect school. Address The Mayor.

Tex., Greenville.—City will erect 60x100-foot high-school building recently noted; fireproof construction; electric lighting; cement sidewalks; cost, \$50,000; date of opening bids not set. Address The Mayor.

Tex., San Antonio.—San Antonio Female College will erect building for chapel to seat 1500, library, hall, art department, etc.; cost \$25,000.

Tex., San Leon.—Carlisle Military School will expend \$100,000 to erect college recently noted; quadrangle in shape; 200x200 feet; two stories; steam heat; electric lighting; plans by C. D. Hill & Co., Dallas and Houston, Tex.; bids opened. Address architects.

Tex., Temple.—City will receive bids until January 21 for erection of high school building; cost \$50,000. Address The Mayor.

Tex., Terrell.—Wesley College will erect additional building to cost \$50,000; plans to expend \$100,000 within five years.

Va., Richmond.—Richmond College has preliminary plans by Cram, Goodhue & Ferguson of New York and Boston, Mass., for 10 or 12 buildings at Westhampton to replace present college. (Main wing recently reported burned at loss of \$60,000.)

W. Va., Charleston.—Board of Education will erect \$30,000 high school building.

W. Va., Harpers Ferry.—Board of Education will erect high school building; cost \$20,000.

STORES

Fla., St. Petersburg.—J. C. Blocker will erect business building; two stories; stone.

Ga., Macon.—C. B. Willingham will erect several stores and dwellings.

Ga., Macon.—B. T. Adams has not definitely arranged plans for erection of store and warehouse on Poplar St., recently noted; construction will not begin for several months.

Ga., Mays.—Mrs. O. T. Brightwell will rebuild stores; 30x130 and 20x50 feet.

La., New Orleans.—Mrs. M. A. Vaughn will erect five-story brick business building; cost, \$25,000.

La., New Orleans.—T. F. Cunningham will expend \$500 for repairing business building.

La., New Orleans.—C. A. Chaffraix and Mrs. S. Miller will erect store building to replace burned structure; cost \$10,000.

La., New Orleans.—E. R. Newell will erect three-story brick building; cost \$6000.

La., New Orleans.—Equitable Real Estate Co. will erect building to replace burned structure; five stories; brick; cost \$30,000.

La., New Orleans.—Otto F. Briede will expend \$7500 for addition and alterations to building.

Md., Baltimore.—H. C. and W. W. Shirley, Union Trust Bldg., purchased building at 15 N. Howard St.; will expend about \$3000 to remodel store, including installation of plate-glass windows and improvements to interior.

Md., Baltimore.—Robert Kinnier, 315 W. Fayette St., is having plans prepared by Callis & Callis, 2000 St. Paul St., Baltimore, for remodeling building at 315 W. Fayette St. for carriage repository; will remodel entire interior, improve front and connect with building in rear; cost \$5000 to \$6000.

BUILDING CONTRACTS AWARDED

ASSOCIATION AND FRATERNAL

Tenn., Pittsburg Landing—Lodge.—Government awarded contract to A. J. Warren, Knoxville, Tenn., to erect lodge at Shiloh Cemetery, near Pittsburg Landing, and make improvements on grounds; estimated cost \$20,000.

Va., Norfolk.—Independent Order of Odd Fellows will award contract to John H. Pierce, Norfolk, for rebuilding burned lodge building recently noted; five stories; brick; ordinary construction; electric passenger elevator; cost \$50,000; plans by James W. Lee, Norfolk.

BANK AND OFFICE

Fla., Jacksonville.—Merchants & Miners' Transportation Co., J. C. Whitney, president, German and Light Sts., Baltimore, Md., will erect office building in connection with terminal improvements; W. T. Hadlow Company of Jacksonville has contract. (See "Miscellaneous Construction.")

Ga., Waycross.—Southern Express Co., J. B. Hockaday, general superintendent, Atlanta, Ga., awarded contract to Blue Ridge Construction Co., Columbia, S. C., at \$15,167.70 for erection of office building and sheds previously reported; 60x120 feet; shed, 138x40 feet; brick and stone; plans by J. F. Leltner, Wilmington, N. C.

Mo., Kansas City.—May-Stern Realty Co., A. Waldheim, president, St. Louis, Mo., awarded following contracts, through D. H. Burnham & Co., architects, Chicago, Ill., for erection of office and store building: Kansas City Structural Steel Co., for all steel work; Cotter & McDonald, for heating plant and apparatus; Monarch Manufacturing Co., for roofing and sheet metal work, and Squire Electrical Co., for electric wiring and fixtures, each of Kansas City; Evans Marble Co., 204-218 E. York St., Baltimore, Md., for marble work; B. E. Lichter & Co., masonry and carpentry; Otis Elevator Co., installing elevators; National Fireproofing Co., fireproofing work; Russell Erwin, hardware; John Borland, plastering; Northwestern Terra-Cotta Co., terra-cotta work, each of Chicago, Ill.; building 48x112 feet; 15 stories; first four floors for stores and upper floors for offices; steel and enameled terra-cotta; fireproof; mahogany interior finish; estimated cost \$750,000. (Recently mentioned.)

Tex., Midfield.—Midfield State Bank, B. W. Trull, cashier, awarded contract to J. M. Blain, Palacios, Tex., for erection of bank building; 22x40 feet; ordinary brick construction; cost \$2000; plans by J. E. Large, Bay City, Tex.

Tex., Texas City.—D. W. Tubbs, Oakwood, Tex., has contracted with Industrial Fuel & Lumber Co. of Texas City for erection of office and store building; two stories; brick; 25x100 feet; cost \$6000.

Va., Richmond.—Main Street Bank awarded contract to John T. Nuckols of Richmond to erect bank and office building; nine stories; fireproof; building materials to be concrete, steel rails, brick, fireproof tiling and stone; halls to be finished with mosaic flooring and white marble wainscoting; offices to have gas and electric lighting; three high-speed hydraulic elevators; plans by Scarborough & Howell of Richmond. (Previously mentioned.)

CHURCHES

Miss., Indianola.—Baptist Church has plans by H. J. Harker, 25 Masonic Temple, Little Rock, Ark., for edifice; 53x55 feet; concrete and brick; slate roof; heating not decided; electric lighting; contract recently noted awarded to S. L. McGinnis & Co., Greenwood, Miss.

CITY AND COUNTY

Fla., Clearwater.—City Hall.—City awarded contract at \$2675 to Reece & Noles, Clearwater, for erection of city hall. (Previously noted.)

DWELLINGS

Fla., Jacksonville.—St. Elmo W. Acosta awarded contract to N. L. Snelson, Jacksonville, for Second-street sewer. Contract lets; mill construction; gas and electric lighting; tile cement sidewalks; cost \$3700. (Recently noted under "Stores.")

Md., Baltimore.—Park Land Corporation, Garrison Ave. opposite Kelso Home, is reported to have awarded contract to Frank H. Callaway, Garrison Ave., Baltimore, for erection of cottage on Liberty Heights Ave. between Grenada Ave. and Grenada path; two and a half stories; ornamental frame; slate roof; verandas on three sides; electric lights; steam heat; cost \$5000.

Md., Roland Park.—Judson C. Carroll awarded contract to Roland Park Co., 408 Roland Ave., Roland Park, for erection of dwelling previously noted; three stories; 11 rooms; stone, slate roof; hot water heat; electric lighting; plans by Edward L. Palmer, Jr., 408 Roland Ave., Roland Park.

Miss., Greenwood.—S. L. McGinnis & Co., Greenwood, have contract for erection of residence; frame and stucco; cost \$7500.

Tex., Greenville.—Mrs. Sallie Terhune awarded contract for erection of residence; 10 rooms.

GOVERNMENT AND STATE

Mo., Lexington.—Postoffice.—Government awarded contract to A. Anderson & Co. (recently noted as lowest bidders), Victoria Bldg., St. Louis, Mo., for erection of United States postoffice; 52x73 feet; ordinary construction; plans by James Knox Taylor, supervising architect, Washington, D. C. (See "Machinery Wanted.")

HOTELS

Miss., Hattiesburg.—Brown's Wells Co. awarded contract for erection, heating plant and plumbing of 100-room hotel; cost \$50,000.

MISCELLANEOUS

Md., Frederick.—Grandstand.—Frederick Fair Association awarded contract to Lloyd C. Culler of Frederick to erect grandstand; 250 feet long and 34 feet deep, with bleachers 12x20 feet; wood construction; cost \$12,000; plans by Hamme & Leber, York, Pa. (Recently mentioned.)

S. C., Greenwood.—Convention Building.—Connie Maxwell Orphanage, A. T. Jamison, superintendent, awarded contract to George W. Buchanan of Greenwood to rebuild convention building; cost \$5000. (Recently mentioned.)

RAILWAY STATIONS

Ga., Jackson.—Southern Railway, D. W. Lamm, chief engineer, Washington, D. C., has, it is reported, awarded contract to G. L. Maddox of Jackson to erect depot, supplied with water, electric light. (Recently mentioned.)

RAILROAD CONSTRUCTION

RAILWAYS

Ala., Anniston.—The Seaboard Air Line has been granted an extension until April 1 of its franchise to build a line into Anniston. W. L. Seddon is chief engineer at Portsmouth, Va.

Ala., Bessemer.—The Birmingham Southern Railroad, according to a report, will build a large yard on 19 acres of land recently purchased at Bessemer. F. H. Crockard is vice-president and general manager at Birmingham, Ala.

Ala., Birmingham.—The new franchise for the Tidewater Railroad Co., which is represented by J. M. Dewberry of Birmingham and others, has been approved by the Mayor, the construction to be supervised by the city.

Ala., Yellow Pine.—The Washington & Choctaw Railway of Yellow Pine is reported chartered to build a line from Yellow Pine northeast through Washington and Choctaw counties to a point 18 miles south of Butler, Ala.; capital \$700,000, of which \$200,000 is paid in. The incorporators include J. W. Gilchrist, George T. Baker, J. T. Burlingame and S. H. Bolinger.

Ark., Rogers.—Official: The directors of the Kansas City & Memphis Railway Co., recently chartered and which proposes to build a line 350 miles long from Rogers, Ark., to Memphis, Tenn., are W. R. Felker, president; A. Y. Williams, vice-president; J. E. Felker, secretary and treasurer; George D. Locke, vice-president and general manager; R. C. Hobbs, J. W. Walker, F. F. Freeman, J. S. McLeod and W. B. Felker. Headquarters at Rogers, Ark. The W. R. Felker Construction Co., as heretofore reported, has the contract and construction is under way.

Fla., Fort Myers.—The Seminole Power & Ice Co. is reported granted a franchise for an electric railway in and near Fort Myers. A. A. Gardner and others are interested.

Fla., Gainesville.—The Tampa & Jacksonville Railroad Co. is reported to have made surveys for contemplated extensions from Sampson to Jacksonville, Fla., 42 miles; also from Fairfield to Brooksville, Fla., 40 miles, toward Tampa. F. S. Parrigin is chief engineer at Gainesville, Fla.

STORES

Mo., Kansas City.—May-Stern Realty Co. of St. Louis, Mo., awarded contracts for erection of 15-story store and office building; cost \$750,000. (See "Bank and Office.")

Tex., Alvin.—G. H. Bronner awarded contract to J. P. Decker & Sons, Alvin, to erect business building; concrete construction.

Tex., Austin.—First National Bank awarded contract to Ledbetter & Mundt, Austin, for erection of store front in building occupied by Harrell's; first floor of marble and glass; second floor of pressed brick; cost \$10,000 to \$12,000; plans by C. H. Page & Bro., Austin.

Tex., Galveston.—Vedder Estate awarded contract to Janssen & Zempster, Galveston, to erect business building; two stories; brick.

Tex., Galveston.—W. R. A. Rodgers awarded contract to Janssen & Zempster, Galveston, for erection of business building (seven stories); one story; brick; 135x85 feet.

Tex., Taylor.—G. W. Glendinning awarded contract to Lee & Evans, Taylor, for erection of business building; one story; brick. (Recently noted.)

Tex., Texas City.—Industrial Fuel & Lumber Co. awarded contract to D. W. Tubbs, Oakwood, Tex., for erection of business building; two stories; brick; 25x100 feet; cost \$6000; lower floor, stores; upper floor, offices.

Tex., Yorktown.—August and Otto Reldel awarded contract to L. W. Gillette of San Antonio, Tex., to erect business building; two stories; brick; cost \$15,000.

WAREHOUSES

Md., Baltimore.—Baltimore & Ohio Railroad awarded contract to Edward Brady & Son, 1103-1113 Cathedral St., Baltimore, to erect freighthouse at Lee, Howard, Hill and Sharp Sts.; 55x340 feet; one story; semi-fireproof; steel frame; concrete foundation; composition roof; steam heat; paving and fencing to cost \$10,000; United States Express Co. will have 25 feet and Fruit Exchange 115 feet of floor space; cost about \$27,000; M. A. Long, Baltimore & Ohio Bldg., Baltimore and Charles Sts., prepared plans. (Recently mentioned.)

Mo., St. Louis.—John J. and Catherine Renz will erect two-story double brick store building.

Mo., St. Louis.—H. Eastman and A. J. Gale will erect five store and apartment buildings.

N. C., Charlotte.—W. E. and W. C. Dowd will erect two-story business building.

Tenn., Chattanooga.—White & Carter, Beech and Harrison Aves., will erect brick mercantile building to replace structure recently burned; plans not made.

Tenn., Hill City.—E. A. Millwood will receive bids at once for erection of store building.

Tenn., Knoxville.—Miller Stores Co., 435 39 Gay St., is having plans prepared by R. F. Graf & Sons, Knoxville, for store building adjoining present structure; six stories; brick; 125x124 feet; cost, \$115,000 to \$125,000.

Tenn., Knoxville.—Anderson-Dulin-Varnell Company has plans by R. F. Graf & Sons, Knoxville, for business building; 60x121 feet; six stories; mill construction; electric light and power; elevators; vacuum heating, etc.

Tex., Angleton.—G. W. Gayle will erect business building; concrete or brick.

Tex., Austin.—First National Bank will remodel and erect addition to present building; cost, \$20,000.

Tex., Austin.—F. M. De Lashmuff has plans by C. H. Page & Bro., Austin, for store front at 604 Congress St.; first floor of marble and glass; second floor of pressed brick; cost \$10,000 to \$12,000.

Tex., Bonham.—G. W. Fuller will erect two-story brick business building.

Tex., Fort Worth.—W. D. and Geo. T. Reynolds will erect building at 9th and Main Sts.; also contemplate erection of several buildings on site of Imperial Theater.

Tex., Houston.—Conrad Schwarz has plans by R. D. Steele, Houston, for business building to be occupied by South Texas Implement & Vehicle Co.; four stories; brick and mill construction.

Tex., Lockhart.—E. A. Masur has plans by L. H. Nell, Lockhart, for store building recently noted; 40x90 feet; two stories and basement; brick; vehicle elevator; cost, \$5000. (See "Machinery Wanted.")

Tex., San Marcos.—Talmadge Hardware Co. will erect store building; brick construction.

Tex., San Marcos.—T. L. Griffin will erect business building adjoining structure now under construction.

Tex., San Marcos.—S. L. Terry is having plans prepared for two or three-story business block.

Tex., Waco.—Frank Keten will erect 100x100-foot store building recently noted; to be occupied by P. G. Taylor Company, wholesale grocers.

Va., Wytheville.—Humphreys-Davidson Hardware Co. has plans by G. A. Williams, Wytheville, for store building recently noted; 50x78 feet; elevator; cost of building, \$6000. (See "Machinery Wanted.")

THEATERS

Ky., Lexington.—Hippodrome Theater Co. will open bids January 15 for erection of theater recently noted; seating capacity 964; lobby finished in marble; 82 boxes; stage 28x50 feet, with fly gallery 60 feet to gridiron; dressing-rooms of concrete, finished in enamel; steam heat; ventilating system; fireproof; concrete, steel and brick; plans by Frederick Elliott, Columbus, O.

Va., Richmond.—W. G. Neal, treasurer of Leath Circuit, will erect theater.

WAREHOUSES

Md., Baltimore.—Baltimore Fidelity Warehouse Co., York and Johnson Sts., has plans by Emory & Nussear, 415 Professional Bldg., Baltimore, for warehouse at York and William Sts.; six stories; reinforced concrete, slate roof; equipment to include electric elevators and machinery for handling heavy freight; estimated cost \$50,000; Emory & Nussear will receive bids until January 4; contractors estimating include Armored Concrete & Construction Co., 1219 Block St.; J. Henry Miller, Inc., 106-108 Dover St.; Raymond Concrete Pile Co., Pratt and Concord Sts.; Noel Construction Co., 33-36 United States Fidelity and Guaranty Co. Bldg., Calvert and German Sts., all of Baltimore.

Closed a Very Satisfactory Year.

As representative of the French Oil Mill Machinery Co., main office at Plana, O., John Williams Taylor of Dallas, Tex., whose territory embraces Texas and Oklahoma, states that he has closed a very satisfactory year. Mr. Taylor states that he is making active preparations for the 1911 trade.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

N. C. Durham.—Herbert Kueffner of Durham is reported making plans for a contemplated railroad from Durham to connect with the Winston-Salem Southbound Railway.

N. C. Danbury.—The North Carolina Traction Co., projected by Dr. H. P. McKnight of Southern Pines, N. C., to build from Rural Hall, via Quaker Gap to Floyd, Va., with a branch from Lawsonville to Danbury, N. C., altogether 92 miles, is reported reorganized and construction contract will be awarded by January 5, work to begin not later than February 1. The officers are: President, A. M. Clarke of Southern Pines, N. C.; vice-president, Dr. J. W. Sykes, Raleigh, N. C.; general manager, E. L. Kraft, Indianapolis, Ind.; director-general, Dr. H. P. McKnight, Southern Pines; secretary, J. W. Kraft, Indianapolis; treasurer, H. S. McAllister, Lumberton, N. C.; master mechanic, T. E. Walker, Cincinnati, O.; purchasing agent, Robert Lee Walker, Indianapolis. A bond issue of \$2,000,000 is reported authorized.

N. C. Salisbury.—A dispatch says that a meeting of business men of Salisbury adopted a resolution in favor of an issue of \$75,000 of bonds by Salisbury township to aid the proposed railroad from Salisbury to Monroe, N. C. T. R. Brown, president of the Salisbury Merchants' Association, may be able to give information.

N. C. Spray.—The Spray Utilities & Terminal Co. has, it is reported, been chartered in connection with the North Carolina & Virginia Railway; capital \$500,000. The incorporators are S. H. Marshall, E. V. Hobbs and N. H. McCollum. Contract for the road, as heretofore reported, was let to the Luck Construction Co. of Roanoke, Va.

Oklahoma, Bartlesville.—The Oklahoma-Western Construction Co. is reported organized to build the St. Louis, Bartlesville & Pacific Railroad (now the Joplin, Oklahoma & Western), chartered several years ago for a line from Joplin, Mo., to Carmen, Okla., about 300 miles, via Vinita, Bartlesville, Pawhuska, Ponca City, Pond Creek and Tonkawa. F. M. Overles and others are interested.

Oklahoma, Coalgate.—An officer of the St. Louis & Oklahoma Railway is reported as saying that grading has been completed on 26 miles between Dougherty and Belton, Okla., and that a line 18 miles long from Coalgate to Bromide, Okla., will also be built. E. T. Brown of Coalgate is chief engineer.

Oklahoma, Muskogee.—The Midland Valley Railway has filed mortgages to secure \$15,000,000 of bonds and will, it is reported, build extensions. C. Kalglin is engineer at Muskogee, Okla.

Oklahoma, Oklahoma City.—C. G. Jones, chairman of the Oklahoma City terminal committee, is reported as saying that a terminal company will probably be organized this week and construction of a terminal for the entrance of the Fort Smith & Western Railway will then begin. W. M. Bushnell of Fort Smith, Ark., is general manager of the railway company.

Oklahoma, Shawnee.—A dispatch says that the Oklahoma Short Line Electric Railway Co., just chartered to build two lines, one from Oklahoma City, Okla., to Joplin, Mo., 175 miles, and the other from Shawnee, Okla., to Denison, Tex., 125 miles, will begin construction January 20. Martin J. Bentley of Teumseh, Okla., who is one of the incorporators, is quoted as making this announcement. The line from Shawnee to Muskogee will first be constructed.

S. C. Rowesville.—The Blake Lumber Co. is reported to have built about 15 miles of railroad from Rowesville to Four Holes, and it will be continued to either Elmore or Holly Hill. Construction is under way.

Tenn., Nashville.—A letter says that the Nashville-Gallatin Interurban Railway Co. will be incorporated by February 15. H. H. Mayberry, Franklin, Tenn., will be president. Line to be 30 miles long, including sidings, from Nashville to Gallatin, Tenn. There will be four steel bridges, each 100 feet long, with stone piers, besides other smaller steel bridges. Construction will begin about June 1 next by the company.

Tenn., Nashville.—A dispatch from Louisville says that W. L. Mapother, vice-president of the Louisville & Nashville Railroad, confirms report that the company will revise its line from Edgefield Junction via Nashville to Decatur, Ala., and will build double track thereon. A previous report that the company would build an entirely separate line for freight traffic is denied. W. H. Courtenay is chief engineer at Louisville, Kentucky.

Tenn., Denison.—Official notice is given that authority will be requested from the Legislature to authorize the acquisition of the Denison & Sherman Railway by the Texas Traction Co. and to build extensions. J. F.

Strickland of Dallas, Tex., is president of the Texas Traction Co.

Tex., Longview.—Sweeney & Alley are reported to have taken a subcontract on the Port Bolivar Iron Ore Railway, of which the C. H. Sharp Contracting Co. of Kansas City is the general contractor.

Tex., San Antonio.—The Missouri, Kansas & Texas Railway is reported contemplating plans to build an extension southward from San Antonio. A. M. Acheson is chief engineer at Dallas, Tex.

Tex., Simmons.—A bonus of \$50,000 is reported offered to build a line into Simmons from San Antonio, about 50 miles; some construction has been done via Macdonia and Kirk, Tex.

Tex., Sweetwater.—The Santa Fe system, it is reported, contemplates building a railroad from Sweetwater, Tex., to Oklahoma City, Okla., about 300 miles. H. W. Wagner, principal assistant engineer at Amarillo, Tex., may be able to give information.

Tex., Tilden.—S. A. Hopkins of Boston, Mass., and associates, it is reported, are investigating to build a new railroad about 75 miles long from oil fields near Tilden to San Antonio.

Tex., Weatherford.—H. F. Mitchell of the Chicago, Weatherford & Brazos Valley Railway Co. is quoted as saying that a line will be built southwest from Weatherford to Brownwood, Tex., about 100 miles. L. M. Kirkes, also of Weatherford, is likewise interested.

STREET RAILWAYS

Oklahoma, Muskogee.—The Muskogee Electric Traction Co., it is reported, will begin an extension in January to the factory section. The fair ground extension will also be lengthened.

Tex., Hamlin.—The Hamlin Street Railway Co., says a dispatch, has been granted a franchise to build a line to the Central Nazarene University.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers Record has received during the week the following particulars as to machinery and supplies wanted.

Automobile Supplies.—Piedmont Electric Co., Asheville, N. C., wants catalogues and prices from manufacturers of automobile supplies with view to representation.

Bank Fixtures, etc.—Citizens' Bank, T. K. Giddens, president, Camp, La., wants prices on safe, vault and other bank fixtures.

Bricks.—A. Anderson & Co., Victoria Bldg., St. Louis, Mo., want prices f. o. b. on 300,000 all hard common, 4,500 dark red pressed and 2000 light gray pressed bricks.

Bridge Construction.—Commissioners of Roads and Revenue of Irwin county, H. T. Fletcher, chairman, Ocilla, Ga., receive bids until noon February 6 for construction of steel bridge over Alapaha River on Irwinville and Tifton public road; structure will consist of four 100-foot spans on concrete abutments and steel cylinder piers; plans and specifications on file at office of Board; certified check, 10 per cent. of bid; G. T. Young, clerk.

Broom Machinery, etc.—D. A. Burwell, Stovall, N. C., wants prices on broom machinery and broom supplies.

Building Materials.—Humphreys-Davidson Hardware Co., Wytheville, Va., wants prices on cement, lime and bricks.

Building Material.—George E. Warfield, 2531 W. Fairmount Ave., Baltimore, Md., wants prices on building material for five brick and wood dwellings, to cost \$1200 each.

Canal Construction.—J. H. Burke, engineer of Drainage District No. 6 of Craighead county, Jonesboro, Ark., will award contract between 2 and 4 P. M., January 16, at east door of courthouse for construction of canal and improvements in drainage district; canal is to be 35,500 feet long, 18 feet wide at bottom and 24 feet wide at top and of average depth of 7 feet; estimated that 183,000 cubic yards of earth and other substances will be removed; ditch to be completed within 10 months from date of contract; certified check, \$1000. Address all inquiries to J. F. Gaudney, attorney; R. L. Collins, clerk.

Canning Machinery.—Prairie View Development Co., Houston, Tex., wants to correspond with manufacturers of machinery for canning and preserving.

Cactus Cloth.—C. B. Marcom, Sumter, S. S., wants cloth made from cactus fiber.

Cars.—See "Locomotives, etc."

Cement.—T. F. Peck, Etowah, Tenn., wants prices on cement.

Cigar box Holder.—Dr. E. M. Beasley, Coal Creek, Tenn., wants to correspond with manufacturers relative to manufacturing patented cigar-box holder, of brass or malleable iron or aluminum.

Cotton-mill Machinery.—Prairie View Development Co., Houston, Tex., wants to correspond with makers of machinery for manufacturing cotton duck.

Electric Light System.—Proposals will be received until 11 A. M., January 30, for constructing electric light system at Fort Screven, Ga.; information on application; deposit of \$15 required on each set of plans and specifications loaned. Address Con-

structing Quartermaster, Fort Screven, Ga.

Electric Lighting.—Anne Arundel County Commissioners, Annapolis, Md., receive bids until 11 A. M., January 17, for lighting certain streets or roads of Brooklyn, Curtis Bay and vicinity of Linthicum Heights by arc or incandescent electric lamps for terms of 1, 2, 5 or 10 years; number of lamps to be not less than 50 arcs or equivalent of incandescent lamps; drawings and specifications may be obtained at office of John H. Gels & Co., south end of Long Bridge, Brooklyn; S. O. Tilghman, clerk County Commissioners.

Elevator.—George D. Smith, 1925 Westland St., Charlottesville, Va., wants prices on elevator for 5x6-foot well, to travel four stories; electric power.

Elevator.—Humphreys-Davidson Hardware Co., Wytheville, Va., wants prices on 7x12-foot elevator.

Electrical Machinery.—T. F. Peck, Etowah, Tenn., wants prices on dynamos (alternating), arc and incandescent lamps.

Electrical Machinery, etc.—Rightsell Manufacturing Co., O. B. Rightsell, manager, Siler City, N. C., will need dynamo for lighting purposes and gasoline engine.

Elevator.—E. A. Masur, Lockhart, Tex., wants prices on elevator for lifting wagons and buggies for two floors and cellar.

Engine.—See "Pumping Engine."

Furniture.—Port St. Joe Co., P. H. Hemphill, Pensacola, Fla., wants prices on furniture for \$30,000 hotel.

Fertilizer Machinery.—Bristol Board of Trade, F. M. Runnels, secretary, Bristol, Va., wants to correspond with manufacturers of fertilizer machinery.

Gasoline Engine.—See "Electrical Machinery, etc."

Ginning Machinery.—E. T. Judd, Pottsville, Tex., will open bids May 1 for installation of machinery for cotton gin.

Handle Lathes.—American Handle Works, Parkersburg, W. Va., wants prices on handle lathes.

Heating Equipment.—Geo. E. Warfield, 2531 W. Fairmount Ave., Baltimore, Md., wants prices on hot air furnace heating equipment for five 14x42-foot two-story dwellings.

Heating Plant.—Port St. Joe Co., P. H. Hemphill, vice-president, Pensacola, Fla., wants prices on heating plant for \$30,000 hotel.

Heating Plant.—Office of Commissioners District of Columbia. Proposals will be received until 2 P. M. January 10 for construction of central heating plant and boilerhouse at M St. High, Simmons and Douglass schools, Washington, D. C.; form of proposal and necessary information may be obtained from chief clerk, Engineer Department, Room 427 District Bldg. Cuno H. Rudolph, John A. Johnston, William V. Judson, Commissioners D. C.

Hoisting and Loading Engine.—J. H. Macleary, Suffolk, Va., wants one D. D. D. C. hoisting engine with boiler complete, 9x12-inch cylinder; one D. C. S. D. loading en-

gine without boiler, 7½x10-inch; name lowest dealers' prices f. o. b. Suffolk, Va.

Hose Wagon.—City of Terrell, Tex., wants prices on hose wagon with chemical attachment. W. P. Allen, Acting Mayor.

Hydro-therapeutic Apparatus.—Rammelsberg Bathhouse Co., G. E. Hogaboom, manager, Hot Springs, Ark., wants prices on hydro-therapeutic apparatus.

Iron Sheets.—Southern Blower & Manufacturing Co., 206 Memphis Trust Bldg., Memphis, Tenn., wants data and prices on sheet iron of various grades, gauge, etc., for manufacturing stove piping, elbows, etc.; contemplates buying three to five carloads per month.

Knitting Machinery.—J. T. Lewis, Washington, N. C., wants to purchase several second-hand (Acme preferred) knitting machines; also several second-hand ribbers (Wildman preferred.)

Laundry Machinery.—Rammelsberg Bathhouse Co., G. E. Hogaboom, manager, Hot Springs, Ark., wants prices on laundry machinery.

Lathe.—Cleveland Machine Works, Cleveland, Tenn., wants new or second-hand 16x32 extension gap engine lathe with 10-foot bed.

Lathe.—American Electric Machine & Elevator Co., 1106 Cass Ave., St. Louis, Mo., in market for 18x10 foot hollow-spindle machine lathe; heavy machine desired.

Laundry Machinery.—H. H. Hines, Florence, S. C., wants names and addresses of manufacturers of laundry machinery.

Lighting Fixtures.—Rammelsberg Bathhouse Co., G. E. Hogaboom, manager, Hot Springs, Ark., wants prices on electrical fixtures.

Lighting Plant.—Port St. Joe Co., P. H. Hemphill, vice-president, Pensacola, Fla., wants prices on lighting plant for \$30,000 hotel.

Locomotive.—J. H. Macleary, Suffolk, Va., wants 36-inch gauge geared engine about 20 tons; send full specifications and price f. o. b. Suffolk in first letter.

Locomotives, etc.—A. M. Lane, Edison, Ga., wants to lease locomotives and equipment for small railroad; state terms, details of equipment, etc.

Marble.—Rammelsberg Bathhouse Co., G. E. Hogaboom, manager, Hot Springs, Ark., wants prices on 20,000 square feet of marble.

Metalworking Machinery.—Southern Blower & Manufacturing Co., 206 Memphis Trust Bldg., Memphis, Tenn., wants data and prices on machinery to manufacture stove pipe, elbows, etc.

Municipal Supplies.—Department of Public Improvements, Subdepartment of City Engineer, Baltimore, Md. Separate sealed proposals, marked "Proposals for Lumber," "Proposals for Sand," "Proposals for Cobble or Rubble Paving Stone and Broken Stone," "Proposals for Vitrified Paving Blocks," "Proposals for Vitrified Sewer Pipe," "Proposals for Asphalt Blocks," "Proposals for American Portland Cement," "Proposals for Curbstone, Gutterstone and Flagstone," "Proposals for Sidewalk and Sewer Brick," "Proposals for Sheet Asphalt Repairs for Whole City," "Proposals for Tools and Hardware," "Proposals for Paints, Oils, etc.," "Proposals for Coal," "Proposals for Sewer Traps," "Proposals for Inlet Covers and Dripstones of North River Bluestone," "Proposals for Square and Oval Cast-iron Manhole Frames and Covers," "Proposals for Cast-iron Inlet Covers," "Proposals for Road Gravel, Washed Concrete Gravel and Washed Filler Gravel" for general purposes in City Engineer's Department during 1911 will be received, addressed to Board of Awards, care of J. Sewell Thomas, Register, at office of City Register, City Hall, until 11 A. M. January 11; certified check of bidder on clearing-house bank, drawn to order of Mayor and City Council of Baltimore for amount recited in specifications, must accompany each bid. Specifications and blank proposal sheets can be had at this office on application; B. T. Fendall, City Engineer.

Paving.—City Council, Palatka, Fla., will receive bids until 7:30 P. M., February 7, for construction of 16,500 square yards of concrete sidewalks according to plans and specifications on file in office of S. C. Stallings, city engineer; certified check, \$500; A. T. Triay, city clerk.

Paving.—City of Farmville, Va., will receive bids (preferably on percentage basis) on engineering the construction of 1400 feet of 42 feet wide pavement; to be intersected by three streets; material to be used not decided; Dr. William E. Anderson, chairman street committee. (Lately mentioned.)

Pipe.—T. F. Peck, Etowah, Tenn., wants prices on pipe for water mains.

Poles.—City of Hastings, Okla., J. A. Marley, Mayor, wants prices on poles.

Pumps.—T. F. Peck, Etowah, Tenn., wants prices on deep-well pumps.

Pumps.—Rammelsberg Bathhouse Co., Hot Springs, Ark., wants prices on pumps.

Pumping Engine.—Fire and Water Commissioners, E. B. Harrington, secretary, Kansas City, Mo., will receive bids until 2 P. M., January 25, for construction, delivery and erection of horizontal shaft centrifugal pump direct-connected to vertical cross-compound engine of capacity to deliver 30,000 gallons of water 50 feet high at speed not exceeding 150 revolutions per minute; instructions to bidders, plans and specifications can be had by applying to W. Klersted, chief engineer, Water Department, Kansas City; certified check, \$200.

Rails.—Runion, care of Manufacturers Record, Baltimore, Md., wants quotations on 30 or 35-lb. relaying rails for North Carolina delivery.

Railway Equipment.—See "Locomotives, etc."

Rip-rap Construction.—Bids will be received at U. S. Engineer Office, Savannah, Ga., until noon January 26 for bank protection of Savannah River at Augusta, Ga.; estimated that 40,000 cubic yards will be excavated from trench and 54,000 tons of stone will be used for filling trench, 16,000 tons for subpavement and 48,000 tons for top pavement. Information on application; Dan C. Kingman, Colonel, Engineers.

Road Graders.—John B. Ashe, County Auditor, Houston, Tex., will receive bids until noon January 19 for two road graders.

Saws.—American Handle Works, Parkersburg, W. Va., wants prices on drag and bolt-ing saws.

Sewer Construction.—Board of Trustees of Collinsville, Okla., John H. Middleton, president, will receive bids until noon January 14 for furnishing all material and constructing sanitary sewers; specifications, blank proposals and plans on file at office of clerk, W. J. Pattison, and at offices of O'Neil Engineering Co., 1563 Praetorian Bldg., Dallas, Tex.; bids opened 7.30 P. M. January 16; usual rights reserved.

Sewer Construction.—Proposals for construction of Second street sewer, Contract No. 77 of comprehensive system of sewerage, will be received at office of Commissioners of Sewerage, P. L. Atherton, chairman, 605 Equitable Bldg., Louisville, Ky., until noon January 20; work will consist of construction of 2430 feet of 42-inch and 48-inch concrete sewer, including about 650 cubic yards of concrete; excavation 19 feet to 22 feet deep; plans and specifications may be seen at office of commissioners and of Harrison P. Eddy, consulting engineer, 14 Beacon street, Boston, Mass.; each bid to be accompanied by certified check for 1 per cent. of bid, or "bidder's bond" as described in proposal form.

Sewer Construction.—Anne Arundel County Commissioners, Annapolis, Md., will receive bids until 11.30 A. M. January 17 for building sewer on Carroll and 5th Sts., Brooklyn; plans and specifications may be seen on file in office of the commissioners, or in office of John H. Geis & Co., Brooklyn, Md.; certified check \$100; S. O. Tilghman, clerk.

Skylights.—Rammelsberg Bathhouse Co., G. E. Hogaboom, manager, Hot Springs, Ark., wants prices on skylights.

Steel Barges.—U. S. Engineer Office, 3338 St. Charles Ave., New Orleans, La., Sealed proposals for constructing and delivering two steel barges will be received at this office until 11 A. M. January 25, and then publicly opened; information on application; H. Burgess, Major, Engineers.

Steel Beams.—Humphreys-Davidson Hardware Co., Wytheville, Va., wants prices on I beams.

Steel Castings.—Isthmian Canal Commission, Purchasing Department, Washington, D. C. Proposals will be received until January 6 for furnishing six double-jack boxes and six base plates of cast steel for repairs to 5-ton Bucyrus shovels; F. C. Boggs, Captain, Corps of Engineers, U. S. Army, General Purchasing Office.

Stove Pipe Machinery.—See Metalworking Machinery.

Tanks.—Rammelsberg Bathhouse Co., G. E. Hogaboom, manager, Hot Springs, Ark., wants prices on steel tanks.

Water Meters.—City of Hastings, Okla., J. A. Marley, Mayor, wants prices on water meters and attachments.

Water-wheels.—T. F. Peck, Etowah, Tenn., wants prices on impulse water-wheels.

Water-works.—City of Palacios, Tex., invites bids from private parties for constructing and operating water-works for supplying

water for general purposes; population 1500. Address City Secretary.

Wire.—City of Hastings, Okla., J. A. Marley, Mayor, wants prices on wire.

Wire.—T. F. Peck, Etowah, Tenn., wants prices on copper wire (insulated or bare.)

Woodworking Machinery.—J. Frank Steele, Anniston, Ala., wants names and address of

manufacturers of light machinery for making toy and doll furniture.

Woodworking Machinery.—Homer L. Fitch, Box 562, Brownsville, Tex., wants prices on machinery to manufacture sash and doors.

Wooden Pipe.—J. W. Houseal, Cedartown, Ga., wants to correspond with manufacturers of wooden stove pipe.

INDUSTRIAL NEWS OF INTEREST

Timber Interest for Sale.

An opportunity to purchase a one-fourth interest in 5000 acres of accessible hardwood timber in Western North Carolina is presented. Particulars may be obtained by addressing No. 727, care of Manufacturers Record. It is stated that this property is now being profitably developed by practical operators who own the remainder of the timber.

Has an Increase of Trade.

The American Electric Machine & Elevator Co., St. Louis, announces that its trade during 1910 was better than previous years. This company manufactures elevators for hand, belt and electric power, and has recently received an order for two machines from a firm in Rio de Janeiro. These are both belt-drive elevators of 4000 pounds capacity each and have a platform eight feet square with a travel of 40 feet.

Sash and Door Plant for Sale.

Parties interested in the purchase of a sash, door and blind manufacturing plant in the South are invited to investigate the facilities of the Southern Lumber Co., whose plant will be sold at public auction on February 3, 1911. For particulars address E. F. Young, receiver, Dunn, N. C.

Grand Prix for Schieren Company.

A recent announcement of industrial interest states that despite the fact that the United States Government did not lend its support to the Brussels Exposition, the leather-belted exhibit of the Charles A. Schieren Company, New York and other cities, has been awarded the Grand Prix. News of the decision of the jury of awards was cabled to New York.

Doubled Its Trade in 1910.

The St. Louis Surfact & Paint Co., 22 S. Commercial St., St. Louis, states that its 1910 trade has doubled as compared with last year's. The company believes that this steady increase is the direct result of good materials which go into its metal-covering paint. It claims that "Metalsteel" paint is a splendid metal protective and rust preventive, and recommends it for all classes of exposed metal work, including bridges, buildings, steel gondola cars, etc. The use of good materials, followed by careful inspection of all paint that the company ships, enables it to guarantee its efficiency.

Will Build Larger Factory.

The H. W. Clark Co., Mattoon, Ill., manufacturer of the well-known Clark meter box and water-works appliances, contemplates building an enlarged and modern factory, comprising iron and brass, machine shop and concrete plants. The rapid and continuous increase of the Clark company's trade has made these betterments necessary in order to care for its orders and provide for the manufacture of new appliances calling for special machinery and equipment. Building operations will commence in the early spring, but a definite announcement has not been made as to whether the company will build in Mattoon or elsewhere.

Burroughs Adding Machines in Business.

That mechanical appliances for office work and other service play an important part in the development of trade is universally appreciated. In commenting upon the necessity of the development of modern methods to facilitate business Albert D. Graham, vice-president and cashier of the Citizens' National Bank, Baltimore, said to the Manufacturers Record: "We have 14 adding machines in our bank. If they could not be replaced I would not part with them for \$5000 apiece. We have just secured several new Burroughs adding machines to better handle our increasing business." Burroughs machines are manufactured by the Burroughs Adding Machine Co., 80 Burroughs Block, Detroit.

Schofield Products in All Parts of World.

So widely have the products of the Schofield Iron Works of Macon, Ga., been introduced and so satisfactory and efficient are the services they render that they are at

present being operated in all parts of the world. This company manufactures engines, boilers, tanks and towers, stacks, sawmill machinery, etc., and correspondence is invited from those who desire details as to their construction and other features. Schofield engines are used extensively in sawmills and other plants needing reliable and efficient power, and are constructed for heavy duty, the larger sizes being equipped with balanced valves of the pressure-plate type. Schofield tanks and towers are substantially constructed and are claimed to meet all needs for modern products of this character. This company manufactures boilers of various types in exact accord with Hartford specifications, and special attention is invited to the Schofield steel-casing boiler, which is carefully manufactured from the best materials obtainable and thoroughly tested before shipment.

Outerbridge Silicon Alloy.

The J. W. Paxson Company of Philadelphia has completed arrangements for handling the sales of Outerbridge silicon alloy as covered by patents owned by A. E. Outerbridge, Jr., foundry chemist and metallurgist. This alloy is claimed to make gray-iron castings softer, stronger, cleaner and more homogeneous, reducing shrinkage, cracking and blowholes and increasing ductility. It is said to control the character of the iron drawn from the cupola accurately, and enables the foundryman to vary the grade of iron in individual ladles to suit special castings. It drives dirt and slag to the top, where it can be skimmed off, and enables the castings to be machined much faster, as they are softer than would be the case without the use of the alloy. In use a small quantity of the finely-ground alloy is dropped in the bottom of the ladle before tapping. In the proportion of one pound to four or five pounds of iron, and then the ladle is skimmed and metal poured as usual. The alloy is said to be particularly suitable for iron running less than 3 per cent. silicon, as more scrap can be used.

Telephones in Philadelphia Terminal

The Pennsylvania Railroad is installing a telephone system of controlling train movements at its Philadelphia terminal, which is believed to be the first installation of a complete telephone dispatching system within the limits of a terminal. This system is unique, being in some measure a telephone train wire having intercommunicating features only between certain points. Dispatchers' offices are located at "S" tower, which is a telegraph office at 32d St., and at "A" tower, at 17th St. At the latter point three calling equipments are provided, which enables anyone of the three operators to call any station, while at "S" but one calling equipment is provided. The various way stations, of which there are 15, can call automatically either "S" or "A," but there is no provision for calling the other way stations. Accordingly both dispatchers' offices are equipped with selectors, as are the regular way stations. Under ordinary operating conditions the dispatchers at "A" will call the various way stations, but in cases of emergency the "A" tower will be cut out and the train movements controlled from "S." The complete equipment of telephone and selector apparatus was supplied by the Western Electric Co., 463 West St., New York.

Has Completed Important Contracts.

Although organized less than one year ago, the Whiting-Middleton Construction Co., main offices, Sexton Bldg., Baltimore, Md., has completed several important contracts. This company acts as consulting engineer and general contractor for the design and construction of bridges, sewers, dams, foundations, etc., and has recently completed the construction of walks, curbs, brick gutters and macadam roads at the Walter Reed Army General Hospital, Takoma Park, D. C. It has also constructed the Jones Falls Interceptor sewer after plans by the Sewerage Commission of Baltimore. This work consists of a brick and reinforced concrete sewer 64 inches in diameter and extending for approximately 4000 feet in the Pennsylvania Railroad Co.'s right of way. During its construction it was necessary to cross

under 28 tracks, main line and coach yard, necessitating their support by long-leaf pine timbers 16x24 inches by 50 feet to each rail, together with mudsills, etc. Under the tracks of the south passenger yard a 60-inch storm sewer was lowered four feet for about 150 feet, forming an inverted siphon under the interceptor sewer. The storm-water flow was maintained by means of a steel flume. Under Charles street the sewer was built in a tunnel for approximately 150 feet, and from Guilford avenue east was supported on concrete piers extending down to bed rock. The time for the completion of this contract was about nine months. The company has also constructed about eight miles of lateral sanitary sewers in Baltimore, ranging from 8-inch vitrified pipe, with 6-inch house connections, to 27-inch brick and concrete sewers; maximum depth, 23 feet. Other local work included clearing, grading, storm-water and sanitary-sewer work in connection with the development of suburban properties, and in the engineering department of the company plans were made for other sewers and a fertilizer wharf and pier for loading and unloading vessels.

Portland Cement and Crushed Rock.

The Choctaw Portland Cement Works, formerly of Oklahoma City, announces that its new plant at Hartsboro, Okla., is nearing completion and that its crusher plant has been in operation for seven months. The office building and machine shops have been completed and the steel has been erected for the coal mill, kiln building and grinding room, while work will soon begin on the foundations for the stockhouse. The office building is 28x28 feet, of cement construction, two stories high, and the machine shop is 100x40 feet, of fireproof cement and steel construction. The coal mill is 117x34 feet, and is equipped with three 30-inch Griffin mills, driven by a 100-horse-power motor. Modern equipment has been installed in the rock-crushing plant, the rock passing from the bins under the screen into tramway cars, which are operated by a continuous cable along a trolley 400 feet long to the raw grinding building. The company's rock-loading tracks have a capacity for 50 cars. The material after passing through the driers will be emptied in sheet and concrete tanks, from which it will pass into two 7x9 ball mills, and from these into an 8x26 tube mill, one of the largest in operation. The dry-kilns are 8 feet in diameter and 110 feet long, the waste heat being utilized by passing it over vertical-tube boilers. The steam from these boilers is passed through turbines developing electricity to operate the entire plant. From the storage bin the clinker passes into a finishing mill, where it is ground by five 40-inch giant Griffin mills and carried by a conveyor to the stockhouse, which will be of concrete and stone construction, 140x75 feet. Sacking will be done by automatic sacking machinery. The company's deposits to be developed stand as a bare ledge 200 feet high and two and one-half miles in length, the shale lying immediately under the rock.

TRADE LITERATURE.

Artistic Calendar Card.

The Acme Knitting Machine & Needle Co., Franklin, N. H., is distributing an artistic calendar card, which presents a picture entitled "The Song of the Wind." As an exquisite color printing this picture is pleasing to the view.

Distributes Attractive Calendar.

F. N. McDonald & Co., Baltimore, Md., are distributing an unusually attractive calendar for 1911, which depicts an interesting woodland scene. This company handles paper of various kinds and states that it is developing a large trade in book papers in the Southern States.

The Edison Aggregate.

Concrete construction in Haiti and Cuba are subjects of interesting articles in the Edison Aggregate for December, a monthly publication of the Edison Portland Cement Co., New Village, N. J. Accompanying the articles are interesting views showing construction in which Edison Portland Cement was used.

Monighan Drag Bucket Excavators.

Monighan drag or scraper bucket excavators are constructed along lines similar to locomotive cranes or turntable derricks, the principal difference being the special machinery used for operating them. These machines are adapted to the excavation of drainage and irrigation ditches and canals, the construction of levees and railroad embankments, stripping of gravel and ore beds, excavation of large areas for building heavy

dam foundations, etc. They are manufactured by the Monaghan Machine Co., 2016-2030 Carroll Ave., Chicago, and are illustrated and described in catalogue E. C., which the company is distributing.

Single-Stage Centrifugal Pumps.

In sectional catalogue No. 230 the Buffalo Steam Pump Co., Buffalo, N. Y., has endeavored to list all such single-stage centrifugal pumps as are used in ordinary service. These pumps are employed for various kinds of work, and the catalogue referred to presents interesting illustrations with comprehensive descriptive data.

Distributing Its 1911 Calendar.

The Standard Blower & Metal Manufacturing Co., Atlanta, Ga., manufacturer of slow-speed low-power blower systems, dust collectors, fans, furnace feeders, etc., has issued its calendars for 1911 and announces that it is distributing them throughout the South among woodworking plants.

Class A-1 Air Compressors.

Bulletin No. 3002, issued by the Ingersoll-Rand Company, 11 Broadway, New York, illustrates and describes Class A-1 straight-line steam-driven single-stage air compressor. This compressor is the modern form of the original A type, and consists of a simple steam and single-stage air cylinder mounted on a main frame with twin outside connected flywheels.

Three-Wire Generators.

Bulletin No. 441, issued by the Triumph Electric Co., Cincinnati, illustrates and describes three-wire generators. These generators are constructed as belted machines or for direct connection to any standard engine, with which they form an exceedingly compact unit. They are made in all standard sizes from 25 kilowatts up and are wound for 250 volts, so that 125 volts can be obtained from either side of the three-wire system.

Brick Molds and Trucks.

Users of brick molds, wheelbarrows and trucks are invited to investigate the facilities of the Arnold-Creager Company, New London and Cincinnati, O. This company manufactures equipment for brick and tile plants, and announces that it has exceptional facilities for the manufacture of molds of special construction to meet unusual conditions. Its products are illustrated and described in a catalogue which the company is distributing.

Concrete Gravity System.

A booklet dealing primarily with the most important problem of concrete construction—that of concrete distribution—presents a solution of this problem, which is scientifically termed the "gravity system." By this system the force of gravity is utilized to distribute concrete through movable pipes to its intended place, and its operation is claimed to be a most important mechanical success in concrete construction. This is the Concrete Appliance gravity system, for which the William B. Hough Company, 1336-7 Monadnock Block, Chicago, is the exclusive Western agent.

Concrete Surface Finishes.

An interesting article on "Concrete Surface Finishes" has been prepared by Albert Moyer, Assoc. Am. Soc. C. E. It is published in pamphlet form for gratuitous distribution by the Vulcanite Portland Cement Co., Land Title Bldg., Philadelphia. The pamphlet also contains several pleasing illustrations, the panels illustrated being on exhibition in the offices of the company in Philadelphia, and in the Fifth Ave. Bldg., New York. This company is also distributing pamphlet No. 11, relating to concrete in the country and presenting illustrative and descriptive data which should be of value and interest to farmers and others.

Calendars for 1911.

As a requisite for the office or home, calendars perhaps play a more important part, considering them from the standpoint of usefulness, than many pieces of furniture. During the past several weeks the Manufacturers Record has received a number of calendars for 1911, many of which are highly attractive and very artistic. Among them is one from the First National Bank of Baltimore, Baltimore, Md., which presents a pastel study of a "Girl in Blue"; Standard Blower & Metal Manufacturing Co., Atlanta, Ga.; J. W. Gamage & Co., Norfolk, Va., showing a wedding scene in rich coloring by Alfred James Dewey; McWane Pipe Works, Lynchburg, Va., presenting a portrait of a "Lynchburg Belle"; Maryland Casualty Co., Baltimore, Md., T. T. Tongue, general

agent; De Laval Separator Co., general offices, 165-167 Broadway, New York; McClintic-Marshall Construction Co., main offices, Pittsburgh, Pa.; Mason Machine Works, builders of cotton machinery Taunton, Mass., Edward Howard, Southern agent, Charlotte, N. C.; Flat Top Fuel Co., Pocahontas coal, Bluefield, W. Va.; Samuel H. French & Co., manufacturers of paints, varnishes, builders' supplies, etc., Philadelphia; Gulf Refining Co., petroleum products, general sales offices, Pittsburgh, Pa.; F. E. Myers & Bro., manufacturers of pumps and hay tools, Ashland, O.; Ironsides Company, manufacturer of lubricants, Columbus, O.; Vulcanite Portland Cement Co., Philadelphia, and the Southern Pine Co. of Georgia, Savannah.

Ingersoll-Rand Bulletins.

Nos. 9001, 9004, 9005 and 9006 bulletins of the Ingersoll-Rand Company, 11 Broadway, New York, show by illustrations and descriptions of work actually performed the value of Davis "Calyx Diamondless" core drills. The method of using these tools, the sizes of tools needed for various forms of drilling and the equipment best adapted to the location, kind of work, probable material to be drilled through, etc., are all explained in these bulletins. The importance of accurate information for contractors as to depth and material to be found in foundation work and the increasing demand for larger cores in drilling work, in prospecting for stone and in metal mining are all treated in an interesting way. The views of sample cores that have been taken out in actual work are particularly interesting.

Coulson Store Front Construction.

Since it was first introduced to the trade in 1900, Coulson patent store front construction has met with increasing favor throughout the United States and Canada, having been specified by many of the leading architects for use in the construction of important store buildings. This construction is claimed to be practical and complete, and when employed all glass is set in position from the outside. The glass does not come in contact with the metal, which gives it the advantage of all-wood setting, at the same time the strength of the steel, which is encased in the wood, and the advantages of the metal covering, which covers the wood. Coulson patent store front construction is manufactured by J. W. Coulson & Co., 234 N. 3d St., Columbus, O., and is illustrated and described in an attractive catalogue which the company is distributing.

Water-Powers of the Third Magnitude

Under the title of "Water Powers of the Third Magnitude" the American Spiral Pipe Works, general offices and plant, 14th St. and Forty-eighth Ave., Chicago, has issued a booklet which should be of interest to engineers and others. Illustrations and descriptive data regarding the installation of Taylor's spiral riveted pipe for a comparatively small hydro-electric-power plant are presented, showing one of many similar installations for which this company has furnished pipe. The Booklet also indicates the feasibility of generating power for individual manufacturers, and directs attention to neglected opportunities for the development of hydro-electric power from large and small streams which are not now utilized.

Ingersoll-Rand Company Pamphlets.

Pamphlet form No. 5003 of the Ingersoll-Rand Co., 11 Broadway, New York, describes and illustrates the "Radialax" air-driven coal cutters; No. 9008 similarly presents the pneumatic tamping machine, and No. 3007 the class "PB" duplex power-driven air compressors. The six classes of work for which the "Radialax" is particularly adapted are fully described, with a photographic cut of each operation as it is being carried on in the mine. Form 9008 describes pneumatic tamping machines for use in relining copper converters. They are built on the same principle and design as this company's rock drills, with modifications to meet the requirements of tamping, and are great savers of labor. The small machines are claimed to do the work of 6 to 10 men, and the large ones nearly three times as much. Form 3007 deals with the latest design in power-driven air compressors and notes the high efficiency of this machine due to its improved features. These include the enclosed dustproof construction with automatic flood lubrication for main bearings, crank pins and cross heads; also the increased wearing surfaces, large valve areas and great intercooler surface. An improvement is found in the addition of a water separator on the discharge pipe, which is claimed to deliver practically dry air to the high-pressure cylinder. A sketch is given of the new automatic clearance controller, a

patented device for economically regulating the clearance.

Holiday Number of Orange Leader.

For a number of years it has been the custom of the Orange Leader, Orange, Tex., to issue an annual Holiday Edition, striving each year to improve upon the previous edition. In 1909 its holiday edition was considered one of the most attractive editions of a newspaper ever issued in Texas, and in presenting its 1910 edition the publishers feel that they have at least maintained the high standard previously attained. This edition is attractively illustrated in colors, and presents much interesting and valuable data regarding the agricultural, industrial, commercial and educational progress and possibilities of Orange and its vicinity.

A paper on "The Mechanical Handling of Freight," by Samuel B. Fowler of Boston, will be presented at the New York meeting of the American Society of Mechanical Engineers on January 10. The subject will be discussed by railroad officials and by officers of large industrial establishments where the handling of great quantities of freight is a serious problem.

Commissioner E. J. Watson of the Department of Agriculture and Immigration of South Carolina, has just published a pamphlet showing that there are in the State 167 textile plants with 4,144,556 spindles and 100,175 looms.

FINANCIAL NEWS

The MANUFACTURERS RECORD invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

Review of the Baltimore Market.

Office MANUFACTURERS RECORD,

Baltimore, Md., January 4.

The Baltimore stock market was quiet during the past week. In the dealings United Railways common sold from 16½ to 16¾; do. trust certificates, 16¾ to 17; do. income bonds, 62 to 62½; do. funding 5s, 84¼ to 85; do. do. scrip, 84¼ to 85½; do. 4s, 84¼ to 85½; Consolidated Gas, Electric Light & Power common, 64½; do. preferred, 90; do. 4½s, 84¼ to 84½; do. notes, 98¾; Consolidated Gas 5s, 108¾; do. 4½s, 93; Seaboard Air Line common, 19¼ to 20; Seaboard Company common, 21; do. first preferred, 80; do. second preferred, 42½ to 44; Seaboard 4s, stamped, 85; do. three-year 5s, 100; do. 10-year 5s, 100; Consolidated Cotton Duck common, 6 to 7; do. preferred, 21 to 25; Mt. Vernon-Woodberry Cotton Duck 5s, 74½ to 75½; G. B.-S. Brewing 4s, 43½.

Bank stock sold as follows: Union, 129½ to 130½; Maryland, 25; Citizens', 42; Farmers and Merchants', 48¼; Mechanics', 29; Bank of Commerce, 31.

United States Fidelity & Guaranty sold at 146 to 144; Continental Trust, 207; American Bonding, 81 to 82.

Other securities were traded in thus: Baltimore City Passenger 5s, 100; Coal & Iron Railway 5s, 102; Consolidation Coal, 102 to 102½; Carolina Power & Light 5s, 92½; Florida Southern 4s, 91¼; Maryland Electric 5s, 96¼ to 97; Fairmont & Clarksburg Traction 5s, 96¼; Georgia & Alabama Consolidated 5s, 105; Baltimore City 4s, 195¼, 100¼; Georgia, Carolina & Northern 5s, 105¾; Milwaukee Refunding 4½s, 92; Northern Central Railway stock, 122 to 123; Detroit United 4½s, 79½; Norfolk Railway & Light 5s, 97½ to 97¾; Houston Oil common, 8 to 8¼; do. preferred, 48 to 48½; Georgia Pacific 1sts, 113¾; Baltimore Traction 5s, 107½; do. North Baltimore 5s, 110; Carolina Central 4s, 92½; Somerset Coal 5s, 100¼; Western Maryland 4s, 86¾; Atlantic Coast Line of Connecticut 5s, certificates, 103; Baltimore City 4s, 195S, 100¾; Savannah, Florida & Western 5s, 110¾; West Virginia Central 6s, 100¾; Consolidation Coal refunding 4½s, 93¼;

Jamison Coal & Coke, George's Creek 5s, 89½; Baltimore City 3½s, 1930, 93; do. 1928, 93½; Knoxville Traction 5s, 103¾; United States Steel, 74; Atlantic Coast Line of Connecticut stock, 225; Maryland 4s, 1926, 101½.

SECURITIES AT BALTIMORE.

Last Quotations for the Week Ended January 4, 1911.

Railroad Stocks.	Par.	Bid.	Asked.
Atlantic Coast of Conn.	100	225	228
Fairmont & Clarks. Trac. Pfd.	100	75	...
Maryland & Pennsylvania	100	194½	23
Norfolk Railway & Light	100	25	...
Seaboard Co. Common	100	21	21½
Seaboard Co. 1st Pfd.	100	79	...
Seaboard Co. 2d Pfd.	100	43	44
United Rys. & Elec. Co.	50	166	166½

Bank Stocks.	Par.	Bid.	Asked.
Citizens' & Farmers'	100	41½	...
Farmers & Merchants'	100	100	...
First National	100	135	138
German	100	163	...
Howland	100	19	13
Marine	100	20	...
Mechanics'	100	28½	29½
Merchants'	100	176	...
Union	100	130	133

Trust, Fidelity and Casualty Stocks.	Par.	Bid.	Asked.
American Bonding	25	81½	82½
Continental Trust	100	206½	210
Fidelity & Deposit	50	149	153
Fidelity Trust	100	205	...
Maryland Casualty	100	95	...
Maryland Trust Pfd.	100	103	...
Mercantile Trust & Deposit	50
Union Trust	50	69	...
U. S. Fidelity & Guaranty	100	...	146

Miscellaneous Stocks.	Par.	Bid.	Asked.
Ala. Con. Coal & Iron	100	20	40
Ala. Con. Coal & Iron Pfd.	100	40	60
Con. Cotton Duck Common	50	6	7½
Con. Cotton Duck Pfd.	50	20	25
Con. Gas, Elec. Lt. & P. Com.	100	65	...
Con. Gas, Elec. Lt. & P. Pfd.	100	87	90
Consolidation Coal	100	102	103
G. B.-S. Brewing Co.	100	...	1½
Georgia Creek Coal	100	4½	...
Mer. & Miners' Trans. Co.	100	...	81

Railroad Bonds.	Par.	Bid.	Asked.
Atlanta & Birmingham 4s.	100	86½	...
Atlantic Coast 1st 4s.	100	94	94½
Atlantic Coast Con. Deben. 4s.	100	95½	96½
At. Coast (Conn.) 4s. Cfs., 5-20s.	100	90	...
Atlantic Coast (Conn.) 5s. Cfs.	100	103	104
Atlantic Coast (S. C.) 4s.	100	92	99
Balto. & Harrisburg 5s.	100	107	...
Carolina Central 4s.	100	105	107
Charleston & West. Car. 5s.	100	105	107
Coal & Iron Railway 5s.	100	101½	102½
Florida Southern 4s.	100	91½	...
Georgia & Alabama 5s.	100	104½	105
Georgia, Car. & North. 1st 5s.	100	105½	106½
Georgia Pacific 1st 6s.	100	114	...
Macon, Dublin & Savannah 5s.	100	95½	...
Maryland & Pennsylvania 4s.	100	86	81
Piedmont & Cumberland 1st 5s.	100	95½	100½
Potomac Valley 1st 5s.	100	108	110
Savannah, Fla. & West. 5s.	100	110½	111
Seaboard 4s. Stamped.	100	84½	85
Seaboard Adjustment 5s.	100	76½	...
Seaboard 10-year 5s.	100	100	...
Seaboard 3-year 5s.	100	100	100½
Seaboard & Roanoke 6s.	100	105½	106
South Bound 5s. 2d 6s.	100	105½	106
Virginia Midland 2d 6s.	100	106	...
Virginia Midland 3d 6s.	100	104	...
Virginia Midland 4th 5s.	100	105	107
Virginia Midland 5th 5s.	100	105	107
Virginia Midland G. M. 5s.	100	107	...
Washington Terminal 3½s.	100	88½	...
Washington-Vandemere 4½s.	100	92½	97
Western Maryland 4s.	100	86½	87
Western N. C. Con. 6s.	100	104½	105½
West Virginia Central 1st 6s.	100	100½	100½

Street Railway Bonds.	Par.	Bid.	Asked.
Annapolis & Potomac 5s. Gtd.	100	102	...
Atlanta Con. Street Railway 5s.	100	105	...
Augusta Railway & Electric 5s.	100	101	102
Balto. City Passenger 5s.	100	99½	100½
Balto., Sp. Pt. & C. 4½s.	100	94	95
Balto. Traction 1st 5s.	100	107½	...
Balto. Traction (N. Balto.) 5s.	100	109½	110
Central Railway (Balto.) Con. 5s.	100	106	110
Central Railway (Balto.) Ext. 5s.	100	108½	...
Charleston City Railway 5s.	100	101	...
Charleston Con. Electric 5s.	100	105½	106½
City & Suburban 5s. (Balto.)	100	105½	106½
Fairmont & Clarksburg Trac. 5s.	100	97	97
Knoxville Traction 5s.	100	103	104
Lexington Railway 1st 5s.	100	84	...
Macon Railway & Light 5s.	100	94½	...
Maryland Electric Railways 5s.	100	96½	97
Norfolk & Portsmouth Trac. 5s.	100	82½	82½
Norfolk Railway & Light 5s.	100	97	98
Norfolk Street Railway 5s.	100	105½	107
Richmond Railway 1st 4s.	100	82½	85
United Railways Income 4s.	100	62	62½
United Railways Funding 5s.	100	84½	85

Miscellaneous Bonds.	Par.	Bid.	Asked.
Ala. Con. Coal & Iron 5s.	78	80	...
Baltimore Electric 5s. Stp.	87½	88	...
Consolidated Gas 5s.	108½	109½	...
Consolidated Gas 4½s.	92½	93	...
Con. Gas, Elec. Lt. & P. 4½s.	84½	84½	...
Consolidation Coal Ref. 4½s.	92½	93½	...
Consolidation Coal (Ky.) 5s.	103½	104	...
Fairmont Coal 1st 5s.	96½	97	...
G. B.-S. Brewing 1st 4s.	100	94	95
Harrisburg Telephone 5s.	100	100½	...
Maryland Telephone Gtd. 5s.	99½	100	...
Mt. Vernon-Woodby Cot. Duck 5s.	74½	75¼	...
United Elec. Lt. & P. 4½s.	91½	92½	...

SOUTHERN COTTON-MILL STOCKS.

Quotations Furnished by William S. Glenn, Broker, Spartanburg, S. C., for Week Ending January 2.

	Bid.	Asked.
Abbeville Cotton Mills (S. C.)	75	...
Alken Mfg. Co. (S. C.)	90	...
American Spinning Co. (S. C.)	160	...
Anderson Cotton Mills (S. C.)	48	...
Anderson Cot. Mills (S. C.) Pfd.	100	...
Arden Mills (S. C.)	190	...
Arkwright Cotton Mills (S. C.)	99	103
Augusta Factory (Ga.)	29	30
Avondale Mills (Ala.)	116	...
Belton Mills (S. C.)	140	...

Brandon Mills (S. C.)	99	103
Brogton Mills (S. C.)	99	99
Cannon Mfg. Co. (N. C.)	135	135
Cabarrus Cotton Mills (N. C.)	130	135
Chadwick Mfg. Co. (N. C.) Pfd.	100	100
Chiquola Mfg. Co. (S. C.)	180	180
Clifton Mfg. Co. (S. C.)	90	90
Clinton Cotton Mills (S. C.)	120	120
Columbus Mfg. Co. (Ga.)	93	98
Courtney Mfg. Co. (S. C.)	100	100
Dallas Mfg. Co. (S. C.)	99	99
Darlington Mfg. Co. (S. C.)	80	80
D. E. Converse Co. (S. C.)	100	100
Drayton Mills (S. C.)	95	105
Eagle & Phenix Mills (Ga.)	117	117
Easley Cotton Mills (S. C.)	165	175
Enoree Mfg. Co. (S. C.)	50	55
Enoree Mfg. Co. (S. C.) Pfd.	96	100
Enterprise Mfg. Co. (Ga.)	80	85
Exposition Cotton Mills (Ga.)	200	200
Gaffney Mfg. Co. (S. C.)	75	75
Gainesville Cotton Mills (Ga.)	75	80
Glenwood Cotton Mills (S. C.)	150	150
Gluck Mills (S. C.)	102	106
Granby Cot. Mills (S. C.) 1st Pfd.	35	45
Graniteville Mfg. Co. (S. C.)	155	165
Greenwood Cotton Mills (S. C.)	57	60
Grendel Mills (S. C.)	103	108
Hartsville Cotton Mill (S. C.)	200	200
Henrietta Mills (N. C.)	160	175
Inman Mills (S. C.)	104	108
King Mfg. Co. (S. C.) Pfd.	90	93
Lancaster Cotton Mills (S. C.)	130	130
Lancaster Cot. Mills (S. C.) Pfd.	97	100
Langly Mfg. Co. (S. C.)	120	127
Laurens Mills (S. C.)	127	135
Limestone Mills (S. C.)	155	160
Lockhart Mills (S. C.)	68	68
Lockhart Mills (S. C.) Pfd.	99	100
Loray Cotton Mills (N. C.) Pfd.	85	97 1/2
Mariboro Cotton Mills (S. C.)	75	80
Mills Mfg. Co. (S. C.)	105	102
Molloy Mfg. Co. (S. C.)	106	110
Monaghan Mills (S. C.)	104	109
Monarch Cotton Mills (S. C.)	110	110
Newberry Cotton Mills (S. C.)	125	130
Ninety-Six Cotton Mills (S. C.)	140	150
Norris Cotton Mills (S. C.)	121	130
Olympia Cotton Mills (S. C.)	90	90
Orr Cotton Mills (S. C.)	102	102
Pacolet Mfg. Co. (S. C.)	95	102
Pacolet Mfg. Co. (S. C.) Pfd.	99	102
Pelzer Mfg. Co. (S. C.)	169	169
Piedmont Mfg. Co. (S. C.)	175	177
Poe Mfg. Co. (S. C.)	110	125
Saxon Mills (S. C.)	125	125
Sibley Mfg. Co. (Ga.)	71	78
Spartan Mills (S. C.)	129	132
Triton Mfg. Co. (Ga.)	130	130
Tucupau Mills (S. C.)	310	350
Union-Buffalo (S. C.) 1st Pfd.	74	78
Union-Buffalo (S. C.) 2d Pfd.	74	78
Victor Mfg. Co. (S. C.)	116	120
Warren Mfg. Co. (S. C.)	107	107
Warren Mfg. Co. (S. C.) Pfd.	106	110
Washington Mills (Va.)	28	28
Washington Mills (Va.) Pfd.	106	110
Whitney Mfg. Co. (S. C.)	120	120
Wilcassett Mills (N. C.)	135	135
Woodruff Cotton Mills (S. C.)	118	122
Woodside Cotton Mills (S. C.)	102	106
Watts Mills (S. C.)	90	90
Williamston Mills (S. C.)	120	125

FINANCIAL CORPORATIONS.

Ala., Anniston.—Official: The Oxford National Bank, capital \$25,000, will begin business about February 1 with directors thus: L. B. Miller, president; W. H. McKleroy and W. C. Gray, vice-presidents; Frank Leigh, cashier; W. W. Whiteside and T. D. Bynum.

Ala., Birmingham.—Official: The Acme Adjustment Co. of Birmingham, 206 Title Bldg., incorporated; Hugh C. Crane, president; N. K. Crane, vice-president, and M. Dyer, secretary.

Ala., Birmingham.—Official: The Birmingham Life Insurance Co., incorporated; capital, \$100,000. Incorporators, T. A. Casey, T. B. Chambliss, Geo. B. Tarrant, R. H. Wharton and W. G. Casey, all of Birmingham. Business is to begin January 1.

Ark., Dardanelle.—The First National Bank is reported being organized with \$25,000 capital; organizers, N. Goodier, G. N. Goodier, E. G. Collier, J. T. Dunbar and J. A. Groom.

Ark., Montrose.—Official: The Bank of Montrose, chartered; capital, \$10,000. Directors, W. T. Crane, president, Montrose; W. H. Shipman, vice-president; J. M. Wadell and S. C. Bullock of Morrill, G. A. Franklin, Montrose, and H. P. Riley and Jas. R. Riley, Little Rock. Business began December 1.

Ark., Van Buren.—Official: The Van Buren Trust Co., 708 Main St., incorporated; capital \$50,000. Directors: Chas. A. Pope, president; M. L. McCabe, vice-president; David T. Bryan, secretary and treasurer; G. T. Cazert, W. V. Bastright, John L. Smith, L. L. Stokes and W. H. H. Shelby. Business is to begin February 1.

Ga., Homer.—The Banks County Bank, capital \$25,000, is reported to have begun business with L. N. Turk, president; Theodore Thompson, vice-president, and M. T. Estes, cashier.

Ga., Thomaston.—Official: The Bank of Thomaston chartered; capital \$25,000; L. F. Farley, president; O. W. Williams, vice-president, and T. E. Mauldin, cashier. Business began December 15, 1910.

Ky., Nortonville.—The Nortonville Banking Co. is reported to have begun business with Frank E. Mohr president, James R. Harrison first vice-president and Dr. W. S. Moore second vice-president; cashier not yet elected.

La., Bogalusa.—Official: The People's

Homestead Association incorporated; capital \$100,000. Business is to begin about January 1 with directors thus: E. J. Dreyfus, president; W. K. Pierce, L. T. Richardson and E. J. Stockstill, vice-presidents; H. C. Dreyfus, secretary, and Louis H. Sperling, treasurer; H. E. Haines, C. Ellis Ott, D. E. Sheridan, R. E. Keaton, C. L. Olivier and A. Tanguis.

La., Camp.—Official: The Citizens' Bank chartered; capital \$15,000. Business is to begin about February 1 with T. K. Giddens president, W. R. McCrackin vice-president and E. C. Readhams cashier.

La., Oil City.—Press dispatches state that a new bank is to be established by L. E. Thomas, president of the Continental Bank & Trust Co. of Shreveport, La.

La., Shreveport.—A new fire insurance company capitalized at \$500,000 is reported being organized. J. A. Bell and R. R. Emery are said to be interested.

La., Vacherie, Station St. Patrick.—The Bank of Vacherie, capital \$5000, is reported organized with Ulysses Steib president, M. M. Neames vice-president and Ed F. Follett cashier.

Miss., Stewart.—The Stewart State Bank has made application for a charter; capital, \$20,000. Incorporators, J. B. Hanna, J. B. Harris, J. S. Powell and others.

Mo., Knobnoster.—R. M. Jenks and Frank Jenks of Bogard, Mo., will, it is reported, organize the People's Bank with \$30,000 capital.

Mo., Seymour.—Official: The People's National Bank, which is a conversion of the People's Bank, is to be chartered; capital \$30,000; R. C. Rhodes, president; W. J. Pyatt and E. T. Smith, vice-presidents; J. C. Peigtel, cashier. Business is to begin about February 1.

Okla., Oklahoma City.—The Continental Trust Co., capital \$500,000, is reported incorporated by A. M. Young, E. B. Cockrell, W. M. Malone, Oklahoma City; R. L. Daniels, Weatherford, Okla.; W. I. Gilbert, E. H. Archer of Frederick, Okla.; Grant Egbert of St. Louis and Oklahoma City; James A. Edwards and W. W. Edwards of Oklahoma City.

Okla., Oklahoma City.—Press dispatches state that a new bank capitalized at \$600,000 is to be organized.

S. C., Chesnee.—Press dispatches state that the Bank of Chesnee, chartered with \$15,000 capital, has elected directors thus: H. B. Carlisle, Spartanburg, S. C., president; G. O. Fike, A. S. Johnson, B. T. Hicks, J. E. McKinney, D. P. S. Martin, T. A. Sawyer, J. T. C. Ezell. Chesnee is a new town on the Carolina, Clinchfield & Ohio Railroad.

S. C., Fort Mill.—Official: The Merchants and Farmers' National Bank chartered; capital \$25,000; T. S. Kirkpatrick, president; T. B. Spratt, cashier. Business is to begin between the 1st and 15th of February.

S. C., Winnsboro.—The Merchants and Planters' Bank is reported to have begun business; capital \$50,000; officers, T. H. Ketchin, president; J. H. McMaster, first vice-president; J. F. Davis, second vice-president; J. W. Cathcart, cashier, and J. M. Lyles, teller.

Tenn., Lynnville.—The Bank of Lynnville, which represents a consolidation of the First National and the Farmers and Merchants' banks, is reported to have elected officers thus: Hon. John W. Fry, president; Prof. W. L. Smith, vice-president; C. T. Reed, second vice-president; George B. Witt, cashier; J. F. Compton, assistant cashier; capital \$30,000.

Tex., Anson.—The Anson State Bank, capital \$25,000, is reported being organized by J. S. Morrow, A. W. Johnson and others. This is said to be a reorganization of the private bank of J. S. Morrow.

Tex., Midfields.—Official: The Midfields State Bank will begin business about February 25 with W. B. Gaumer, president, and Bruce W. Trull, cashier.

Tex., Quanah.—Official: The Citizens' National Bank chartered; capital \$50,000. Business is to begin immediately with S. P. Britt, president, Childress, Tex.; W. R. Edrington, vice-president, Fort Worth, Tex.; R. F. Hughes, cashier, and John Diggs, assistant cashier, both of Quanah, Tex.

Tex., Waco.—A new State bank and trust company capitalized at \$100,000 is reported being organized by L. Fouts of Dayton, Tex.; J. C. Holloman, M. L. Garrett and George P. Bird of Waco.

W. Va., Berwind.—The Berwind National Bank has been approved; capital \$25,000; B. L. Simpson, president; H. M. Bertolet, vice-president; R. L. Page, cashier.

W. Va., Kenova.—The Kenova Banking & Savings Co., capital \$40,000, is reported chartered with Joseph S. Miller, president; B. W. Foster, vice-president, and K. B. Cecil, cashier.

NEW SECURITIES.

Ala., Anniston.—Press dispatches state that \$400,000 of Calhoun county good-road bonds is under consideration.

Ark., Fort Smith.—Official: Fort Smith and Van Buren Bridge District has just sold \$625,000 of 5 per cent. 20-year bonds at par. The Water Improvement District will probably have \$500,000 of bonds to offer about April 15 with which to purchase the privately owned water company of the city, the suits in the Federal Court having been decided in favor of the city. W. J. Johnston is Mayor.

Fla., Marianna.—Reported that \$10,000 of 5 per cent. 20-year water-works extension bonds have been purchased by the State School Board.

Ga., College Park.—Official: Bids will be received until 8 P. M. January 10 for \$50,000 of water and sewer and \$15,000 of electric-light 5 per cent. bonds; denomination \$1000; dated September 1, 1910. B. S. Hule is Mayor.

Ga., Dublin.—Official: Bids will be received until noon January 17 for \$30,000 of 5 per cent. 20-year water-works, electric-light and street-improvement bonds. Denomination, \$1000. Address A. P. Hilton, Clerk of Council.

Ga., Dublin.—Bids will be received until noon, January 17, for \$30,000 of 5 per cent. water-works, electric light and street improvement bonds. Address A. P. Hilton, city clerk.

Ga., Fairburn.—January 14 an election is to be held, it is reported, to vote on \$20,000 of water-works and \$10,000 of electric light bonds.

Ga., Lafayette.—Press dispatches state that \$40,000 of electric-light and water bonds have been sold to the contractors, J. B. McCrary Company.

Ky., Wingo.—The Paducah Savings Bank of Paducah is reported to have purchased \$5000 of 5 per cent. 20-year school building bonds. D. H. Slaughter is town clerk.

La., Ruston.—Reported voted: \$65,000 of school bonds; interest not to exceed 5 per cent.

Md., Annapolis.—Press dispatches say that \$650,000 of hospital, sanatorium and highway bonds have been awarded to Baltimore concerns as follows: The Safe Deposit & Trust Co., \$500,000 4s at 100.46; Townsend Scott & Son, \$25,000 4s at 100.61; \$15,000 4s at 100.76 and \$10,000 4s at 101.07; Baker, Watts & Co. and Hambleton & Co., \$100,000 3 1/2s at 94.452.

Md., Annapolis.—Bids will be received until noon, February 1, for \$1,000,000 of 3 1/2 per cent. Series D, State Roads loan. Austin L. Crothers is Governor; W. B. Claggett, comptroller of the treasury, and Murray Vandiver, secretary.

Miss., Hattiesburg.—Official: Well, Roth & Co. have agreed to purchase at private sale the \$100,000 of 5 per cent. Mississippi normal college bonds; maturity 1940; denomination \$500.

Miss., Jackson.—Reported that all of the \$600,000 of Mississippi State bonds have been sold.

N. C., Winston-Salem.—Official: City will issue \$100,000 of public-improvement bonds; interest not to exceed 5 per cent. Address O. B. Eaton, Mayor, or J. R. Fletcher, chairman, Finance Committee.

Okla., Claremore.—John Nuveen & Co. of Chicago are reported to be the purchasers at par of the \$52,500 of 5 per cent. 25-year water and city hall bonds.

Okla., Goltry.—Reported that an election is to be held to vote on \$13,000 of school-district building bonds.

Okla., Hominy.—Reported voted: \$36,000 of water and sewer bonds.

Okla., Oklahoma City.—Reported that Mayor Lackey has agreed to call an election February 14 to vote on \$1,500,000 of water bonds.

S. C., Dillon.—Coffin & Crawford of Chicago are reported to have purchased at \$15,025, less \$750 for expenses, \$15,000 of 5 per cent. electric-light plant bonds.

Tenn., Lonsdale (P. O. Knoxville).—The question of issuing bonds is reported under consideration. M. M. Copenhagen is Mayor.

Tenn., Memphis.—Reported that a bill is to be introduced in the Legislature providing for \$250,000 of Shelby county school bonds.

Tex., Austin.—The Attorney-General has approved securities as follows: \$75,000 of Austin school bonds.

Tex., Beeville.—Reported that bids will be received until January 9 for \$75,000 of 4 1/2 per cent. 10-40-year Bee county courthouse bonds.

Tenn., Bristol.—Well, Roth & Co. of Cincinnati is reported to have purchased at par

and accrued interest \$60,000 of water-extension bonds.

Tex., Fort Worth.—Press dispatches state that the election to vote on \$1,500,000 of water-works, \$300,000 of street, \$40,000 of storm-sewer, \$40,000 of light and \$120,000 of police and fire-station bonds will be held January 5.

Tex., Gainesville.—January 10 an election is to be held to vote on \$150,000 of 5 per cent. 10-40-year water-works bonds. J. W. Puckett is Mayor.

Tex., Greenville.—Official: Spitzer & Co., street-improvement, \$50,000 of water-works improvements and \$70,000 of school building of Toledo, O., have purchased \$190,000 of 5 per cent. bonds, recently authorized. Denomination, \$500. T. E. Byrd is Mayor.

Tex., Kountze.—January 11, it is reported, an election is to be held in Hardin county to vote on \$100,000 of road improvement bonds.

Tex., Palestine.—A. Bowers, Mayor, writes that city is not issuing any bonds now. This denies press report that bonds for water-works are to be issued.

Tex., Pecos.—Official: An election is to be held January 30 to vote on \$25,000 of 5 per cent. 30-year sewer bonds.

Va., Christiansburg.—S. A. Kean & Co. of Chicago are reported to have purchased at par \$40,000 of 5 per cent. 15-30-year water-works bonds.

Va., Martinsville.—Official: Bids will be received until noon January 20 for \$35,000 of 6 per cent. 34-year fifth series electric-plant bonds; denomination \$1000; dated January 5, 1911. Address J. D. Sparrow, agent. W. H. Gravelly is Mayor.

Va., Lebanon.—Official: An election is to be held in Russell county February 14 to vote on \$275,000 of road bonds.

Va., Portsmouth.—An election is to be held January 18, it is reported, to vote on \$600,000 of municipal water-works bonds. Concerning the above, L. P. Slater, city clerk, writes that there is some talk about bonds for water plant, etc., but thinks the day for issue of such bonds is some time off.

Tex., Waco.—Reported that the election to vote on \$250,000 of electric-light plant bonds will be held February 14.

Va., Wise.—Official: Bids will be received by C. A. Johnson, clerk, until noon, January 31, for \$700,000 of 5 per cent. 15-30-year Wise county road and bridge bonds. R. T. Irvine is financial agent, Big Stone Gap, Va.

W. Va., Welch.—Bids will be received until noon January 14 by the Board of Education, F. C. Cook, secretary, for \$35,000 of 5 per cent. 20-30-year Brown's Creek District, McDowell county, school-fund bonds.

At Dublin, Ga., bids will be received until noon January 17 for \$30,000 of 5 per cent. water-works, electric-light and street-improvement bonds. Further particulars will be found in the advertising columns.

FINANCIAL NOTES.

The conversion of the Bank of Clarksville, at Clarksville, Ark., into the National Bank of Clarksville has been approved; capital, \$50,000.

The First National Bank of Roanoke, Va., is reported to be doing business in its new building, corner of Salem Ave. and Jefferson St.

The Bank of Bishopville, at Bishopville, S. C., is reported to have been authorized to increase its capital from \$25,000 to \$75,000.

The Hamilton National Bank of Chattanooga, Tenn., according to press dispatches, proposes to increase its capital from \$500,000 to \$1,000,000.

The Third National and the National Bank of Baltimore have been consolidated under the name of the latter institution. Capital \$1,210,700; deposits \$5,500,000; resources \$8,500,000. The officers will be T. Rowland Thomas, president; Robert H. Smith and J. Albert Hughes, vice-presidents; William J. Delcher, cashier; Snowden Hoff and Edwin W. Adams, assistant cashiers. The new institution occupies the building of the Bank of Baltimore.

A condensed statement of 280 State banks and branches and four private banks doing business in South Carolina at close of business, December 1, 1910, shows loans and discounts, \$44,421,913; due from banks and trust companies, \$10,403,386; capital stock paid in, \$10,308,788; surplus fund, \$3,131,364; undivided profits, less current expenses and taxes paid, \$2,438,243; due to banks and trust companies, \$1,357,640; individual deposits subject to check, \$24,388,717; savings deposits, \$10,521,672; time and demand certificates of deposit, \$3,483,035; total resources, \$63,963,316.

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